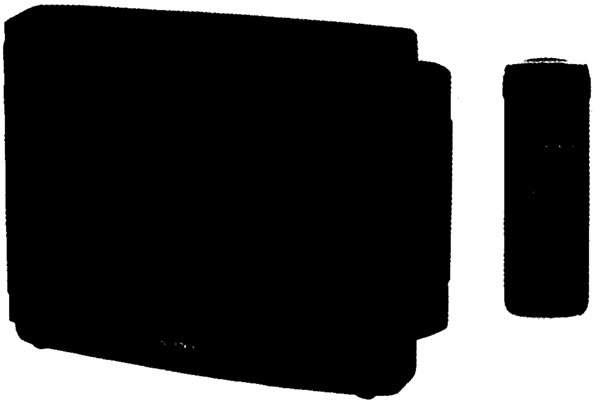
KV-A2122U/A2522U/A2922U
RM-816

SERVICE MANUAL

UK Model
KV-A2122U
Chassis No. SCC-E23S-A
KV-A2522U
Chassis No. SCC-E23U-A
KV-A2922U
Chassis No. SCC-E23T-A



AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-A2122 U/A2522 U/A2922 U	
KV-A2112U/A2512U	
KV-C2522U	

SPECIFICATIONS

【KV-A2122U/A2522U/A2922U】

Television system	I
Color system	PAL, SECAM, NTSC3.58, NTSC4.43
Stereo system	NICAM stereo
Channel coverage	I UHF: B 21-B 69
Picture tube	Hi-Black Trinitron tube Approx. 54.5 cm (21 inches) (Approx. 51 cm picture measured diagonally) 100 ° -degree deflection Approx. 63.5 cm (25 inches) (Approx. 59 cm picture measured diagonally) 110 ° -degree deflection Approx. 72.4 cm (29 inches) (Approx. 68 cm picture measured diagonally) 110 ° -degree deflection
Inputs	⊖ 1 21-pin connector: CENELEC standard including RGB input. ⊖ 2 21-pin connector: including S video input Flont : ⊖ 3 Audio and video input jacks: phono jack. Including S Video input Y: 1Vp-p ±3dB 75ohm C: 0.3Vp-p ±3dB 75ohm
Outputs	21-pin connector: CENELEC standard Headphones jack: stereo minijack Audio output jacks: phono jack (output dependent upon TV settings)
Sound output	30 W + 30 W 15 W + 15 W (RMS)
Power consumption	126 W (KV-A2122 U) 127 W (KV-A2522 U) 167 W (KV-A2922 U)
Dimensions incl.speakers	Approx. 615 × 439 × 448 mm (w/h/d) (KV-A2122 U) Approx. 677 × 501 × 481 mm (w/h/d) (KV-A2522 U) Approx. 761 × 568 × 512 mm (w/h/d) (KV-A2922 U)
Weight incl.speakers	Approx. 28kg (KV-A2122 U) Approx. 40kg (KV-A2522 U) Approx. 55kg (KV-A2922 U)

-Continued on next page-

TRINITRON® COLOUR TV

SONY®

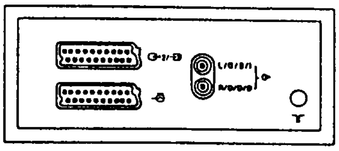
MICROFILM

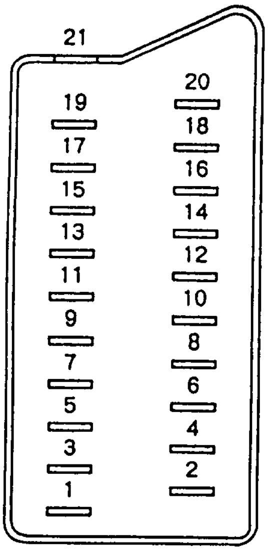
【RM-816】

Remote control system	infrared control
Power requirements	3 V dc 2 batteries IEC designation R 6 (size AA)
Dimentions	Approx.75×221×23 mm (w/h/d)
Weight	Approx.230 g (including Batteries)

Design and specifications are subject to change without notice.

21 pin connector (→⊙, ⊖→2/→Ⓢ)





Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (branking)	
15	○	–	Red input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
20	○	–	Video input	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open) * at 20Hz – 20kHz

4 Pin Connector (⊖→)

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75ohm, positive Sync 0.3V$^{-3}_{+10}$dB
4	C (S signal) input	0.3V ± 3dB 75ohm, positive

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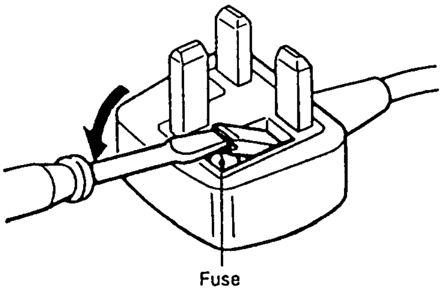
- CAUTION

The flexible mains lead is supplied connected to a B.S. 1363 fused plug having a fuse of 5 amp capacity. Should the fuse need to be replaced, use a 5 AMP FUSE approved by ASTA to BS 1362, i.e., carries the ◈ mark.

How to replace the fuse

Open the fuse compartment with the blade screwdriver, and replace the fuse.



(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

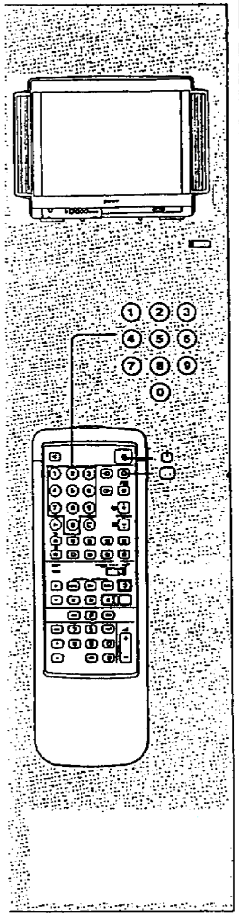
SECTION 1
GENERAL

1-1. TV CHANNEL PRESETTING

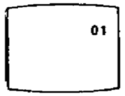
After installing the TV set, TV channels must be preset.

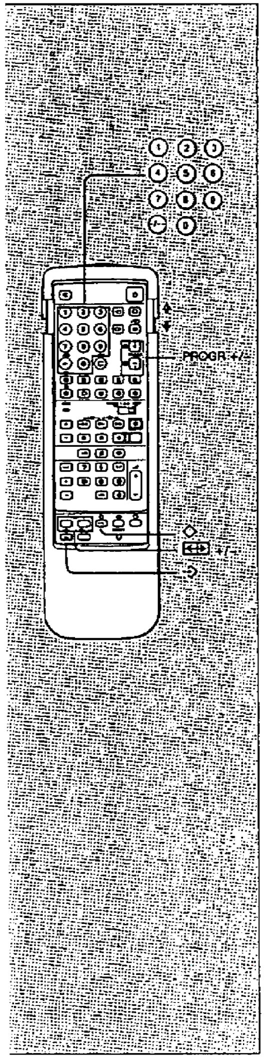
TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.



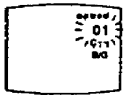
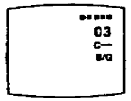
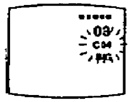
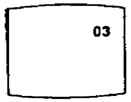
Turning the TV unit ON and OFF

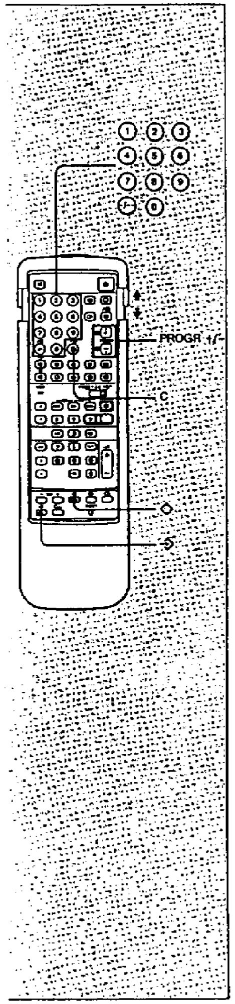
Operation	Result
1 Press ⏻ on the TV set.	The TV set will come on. **Note:** If no picture appears on the screen, the TV set is in the stand-by mode. In this case follow instructions given in step 2.
2 Press ▭ or one of the selection numbers of the remote control unit. ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪	 A programme number appears on the screen.
Temporarily turning off the TV set: Press ⏻ on the remote control unit.	The TV set will enter the stand-by mode. It can be turned on again by pressing the ▭ button, or the selection button of the remote control unit.
Turning off the TV set definitively: Press ⏻ on the TV set.	The TV set will be turned off.



TV channels automatic presetting

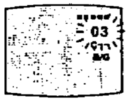
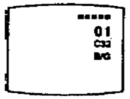
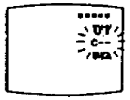
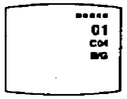
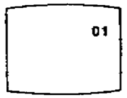
If the numbers to be associated with certain TV channels are already known, the following explanation can be skipped. In this case go directly to the section "TV channels direct selection".

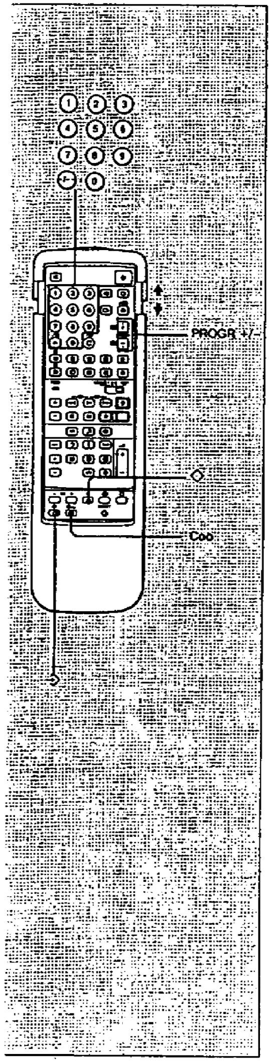
Operation	Result
1 Press ⇾ to begin the preselection.	 The programme number flashes.
2 Press PROGR +/– buttons of the remote control unit to select the channel number of the broadcasting station you want to memorize. + PROGR – ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ -/-- ⓪ NOTE: To select a 2-figure number press the -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes. NOTE: In case of a mistake, the "X" letter appears. Repeat once more the operation of step 2.
3 To search for broadcasting stations press ⊞ + and – buttons. – ⊞ +	 When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press ⊞ + or – again.
4 Press ◇ to memorize the channel to that the broadcasting station is tuned.	 All data visualized under the channel number disappears from the screen.
5 To memorize other broadcasting stations repeat steps from 1 to 4.	



Direct TV channel setting

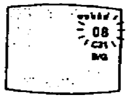
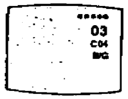
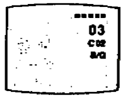
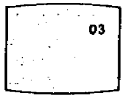
Direct presetting of TV channels is faster than automatic presetting. With this function any broadcasting station can be searched for and set as the desired channel.

Operation	Result
1 Press ⟡ to begin the presetting.	 The programme number begins to flash on the screen.
2 Press the PROGR +/– buttons of the remote control unit to select the channel number under which you want to set the broadcasting station. Note To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes. **Note** In case of mistake, the "X" letter appears on the screen. Repeat once more the operation of step 2.
3 Press C. If you wish to select a cable station press C twice.	 Indication "C–" ("S–" for cable stations) flashes on the screen
4 By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04"). Note: Press the second figures within 5 seconds from the first. After 5 seconds the operation is canceled.	 The channel number changes on the screen.
5 Press ◇ to memorize the channel to which the station is tuned.	 All indications, except the programme number, disappear from the screen.
To memorize other broadcasting stations repeat the above procedure.	



Exclusion of programmes

Once all desired stations have been memorized, unoccupied channel numbers, with stations of inferior quality signals can be excluded. The undesired channels can be excluded by using the PROGR + and – buttons.

Operation	Result
1 Press ⟡ to begin presetting.	 The programme number begins to flash on the screen.
2 By acting on the PROGR + and – buttons, or on the number keys of the remote control unit, select the programme number you wish to exclude.	 The programme number changes.
3 Press Coo.	 Under the programme number, the preceding channel number appears.
4 Press ◇ .	 All indications under the programme number disappear from the screen. The excluded programme number will be memorized.

NoteNote
Undesired channels can be excluded only by using PROGR + and – keys.
Excluded programme numbers appear on the screen if you press the number keys of the remote control unit.

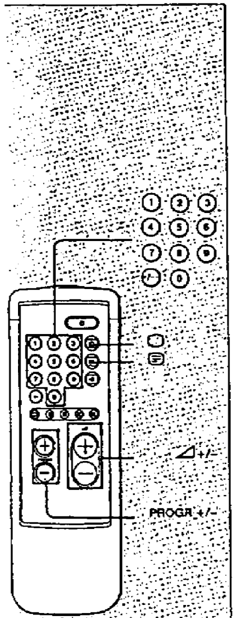
Use of additional tuning functions

Temporary channel tuning

It is possibile to temporarily memorize a channel, even if it has not been preset.

Operation	Result
1 Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
2 Using the number keys of the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.

1-2. BASIC FUNCTIONS

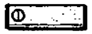
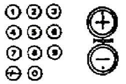
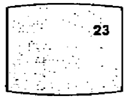


This section of the manual explains the use of the two fundamental functions of the TV set, selection of TV programmes and volume control.

Use the "simple" side of the remote control unit.

Programme selection

Before selecting programmes make sure that TV channels have been memorized.

Operation	Result
1 Turn the TV set on. 	
2 Press PROGR +/- buttons or the number keys of the remote control unit. To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3. 	 The selected programme number appears on the screen.

Volume control

Operation	Result
Press ⊿ + or –.	The volume indication appears on the screen.

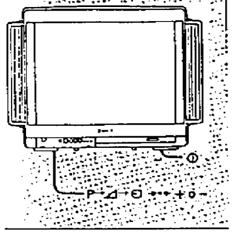
Use of additional functions

Use of other functions with the TV set buttons

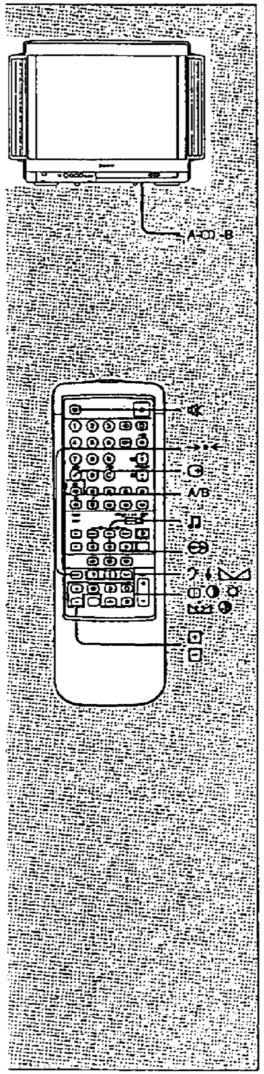
It is also possible to select programmes and to adjust the volume by using P→⊿→⊖ and →•← + or – buttons, located on the front panel of the TV set.
In this case, press first P→⊿→⊖ until the indication P (channel) or ⊿ (volume) appears on the screen, and then press →•← + or – buttons.

Use of teletext service

Press ⊜. To revert to the TV mode, press ▢. For further information on the teletext service.



1-3. SPECIAL FUNCTIONS



This section explains the use of functions for adjusting pictures and sound; for inserting on the screen the name of a channel; and for fine tuning of a channel.

Use the "complete" side of the remote control unit.

Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press ⊕	Press ⊕ again.
Sound muting	Press 🔇	Press 🔇 again.
Language selection for bilingual programmes.	Press A/B. The selected language is displayed by the relevant indication on the screen.	Press A/B.
Sound adjustment for music programmes.	Press ♫	Press ♫ again.
Use of special sound effects.	Press ⊖⊕	Press ⊖⊕ again.
Time display (only during teletext broadcasting).	Press ⊚	Press again.

Picture and sound adjustment

Although picture and sound adjustment has already been performed in the factory, it is still possible to make them more suitable to one's own taste. The following table shows all available functions and their effects.

Operation

Function	Controls to be used	Result
Button selection	◕◑☼⋈◐	The symbol appears on the screen.
Adjustment of the selected function	⊞⊟	The level has been adjusted.

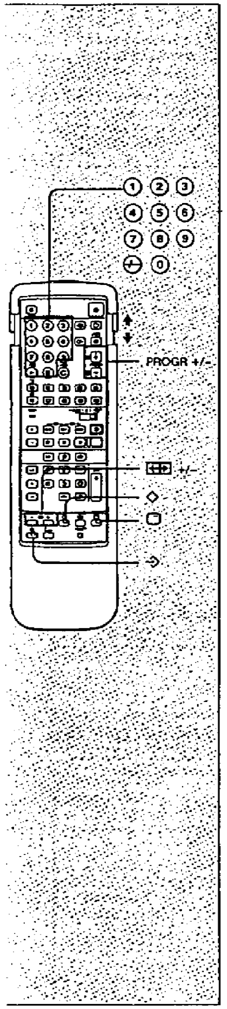
Picture adjustment

Adjustment	Symbol	Result (+ ↔ –)
Colour	◕	Further or lesser colour intensity
Contrast	◑	Further or lesser contrast
Brightness	☼	Bright (↔) dark
Hue (for NTSC only)	⋈	More red ↔ more green
Picture definition	◐	More definition ↔ less definition

Sound adjustment

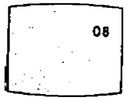
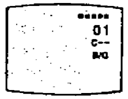
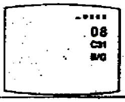
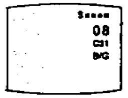
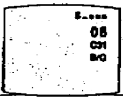
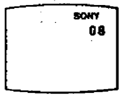
Adjustment	Symbol	Result (+ ↔ –)
Bass	?	More of low frequencies ↔ less of low frequencies
Treble	♩	More of high frequencies ↔ less of high frequencies
Speakers balance	⋈	Volume increase from right speaker ↔ Volume increase from left speaker

Reversion to the original adjustment
Press →•←.



Broadcasting station identification

By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.
Five different characters are available for station identification.

Operation	Result
1 By using PROGR + or –, or the number keys of the remote control unit, select the programme number to be set for identification.	 The programme number to be set for identification appears on the screen.
2 Press ⇾	 The number flashes on the screen.
3 Press ▢	 The first indication line flashes on the screen.
4 Using the ⊞ + or – buttons select a letter of the alphabet, a number, or a blank space.	 Alphabet letters, numbers or a blank space ("-") appear on the screen, in that order.
5 Press ▢	 In this way the first character has been set, and the following position now flashes on the screen.
6 Repeat steps 4 and 5, and fill all five available spaces.	
7 Press ◇ .	 All indications under the programme number disappear from the screen. All indications remaining on the screen have been memorized.

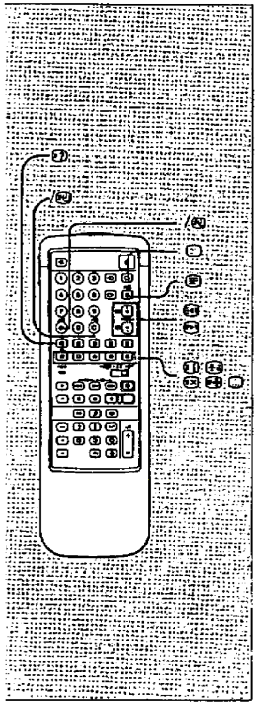
Manual fine tuning

If the picture is not perfect, it is possible to fine tune it manually.

Operation	Result
Press ⊞ + or – repeatedly until the picture is at the optimum.	The indication →F← appears on the screen.
Press ⇾ to start preselection.	The programme number starts flashing on the screen.
Press ◇ .	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

1-4. USE OF THE TELETEXT SERVICE



Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.

How to display teletext service

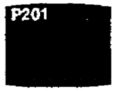
Operation	Result
1 Select the channel you want to watch.	The channel changes on the screen.
2 Press ⊜	If there is no teletext signal, the indication "Page 100" appears on the screen.
3 Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. Note In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.

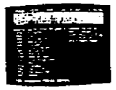
To revert to normal TV programmes:
Press ▢.

To change teletext channel:
First press ▢ to revert to the TV mode, and then repeat procedure steps 1 to 3.

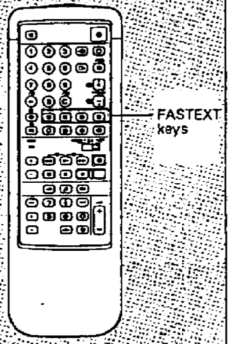
Note: A weak TV signal may cause troubles in the use of teletext.

Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press ⊡ (INDEX).	Page index appears.
Sub-pages required (page 888).	Press ▢	The sub-page appears (page 888).
Access to previous or following pages.	Press ⊕ (PAGE +) or ⊖ (PAGE –).	 The preceding or the following page appears.

Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press ⊜ twice. To revert to the normal teletext function press ⊜ again.	Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page up-dating.	Press ⊜ (STILL). Press ⊜ (TXT/MIX) to revert to the normal function.	The ⊜ (STILL) symbol appears on the screen.
Magnification of teletext characters.	Press once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. Pressing the button three times the normal vision is restored.	world weather The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, ecc.).	Press ⊜ (RIV). Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page.	The number is displayed.
	2. Press ⊜	TV programme is displayed.
	3. When the required page has been found, the page number will be displayed.	
	4. Press ⊜ to display the page.	The desired page will be displayed.
Display of a page at a preset time.	1. Request the page.	The selected page will be displayed.
	2. Press ⊜ (MEM.T).	In the lower part of the screen the indication "T****" appears.
	3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The required time is displayed on the screen.
	To watch TV programmes until a preset time Press ⊜ (CANC.). At the required time, the selected page appears in the upper part of the screen. Press ⊜ to display the page. **To cancel the request** Display the teletext page and then press ⊜ (CANC.M.).	

Note: Depending on the teletext service, certain functions may not be available.



Use of the FASTEXT function

The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the coloured keys on the remote control unit.

Operation

Operation	Result
Press one of the coloured key on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

Note
The correct use of the FASTEXT teletext function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.

1-5. CONNECTIONS AND OPTIONAL FUNCTIONS

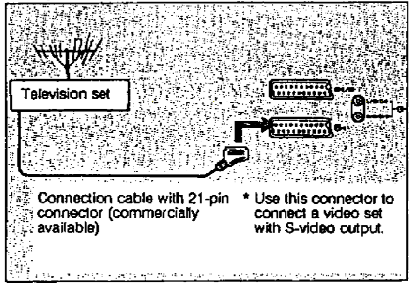
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

Connection to an external audio/video system

This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics.

Connector	Input signal	Output signal
⊝-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
⊙-2/⊡-	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
-⊞, ⊕, -⊙ front panel	Normal audio/video signal and S-video signal	No signal

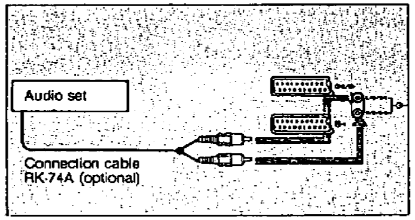
Connection of a TV set



Connection cable with 21-pin connector (commercially available)

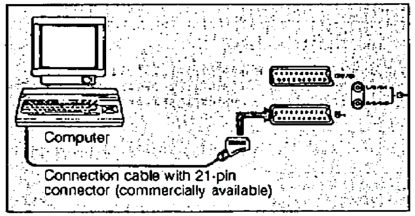
* Use this connector to connect a video set with S-video output.

Connection of an audio unit



Connection cable RK-74A (optional)

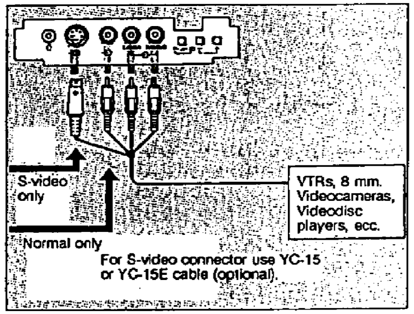
Connection to a computer with RGB output



Connection cable with 21-pin connector (commercially available)

Temporary connection of video apparatus

For a temporary connection (e.g. of a videocamera) use the front panel terminals.



For S-video connector use YC-15 or YC-15E cable (optional).

Connection of a video taperecorder through the ⊤ connector

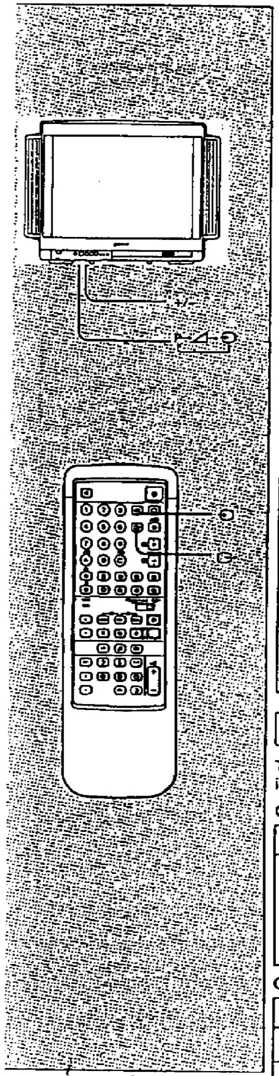
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the video taperecorder.

S-video input (Y/C input)

The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interferences. This TV set features two S-video sockets able to directly receive this type of signal.

Pictures with distortion

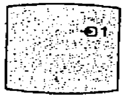
Move the TV set away from the video taperecorder if pictures or sound become distorted.



Video programme playback

Using the input selector, pictures coming from a video taperecorder connected to the TV sets input, may be played back.

Operation

Operation	Result
Select the desired video input by pressing ⊕ repeatedly.	 The symbol of the selected input appears on the screen (see table hereunder).
Press ☐ button to revert to TV mode.	

Selectable inputs

Symbol	Selected input
⊕1	Audio/video signal from ⊝-1 connector.
⊕̄	RGB signal from ⊝-1 connector.
⊕2	Audio/video signal from ⊙-2/⊡- connector.
-⊞2	S-video signal (from a VTR with S-video output) from ⊙-2/⊡- connector.
⊕3	Audio/video signal from ⊕, -⊙ connector located on the front panel.
-⊞3	S-video singal from S-video -⊞ (4 pin) connector located on the front panel.

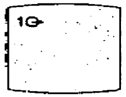
Input can be selected also with P→⊿→⊕ buttons of the TV set.

In this case, first select ⊕, and then press the + /– buttons to select the desired input.

Selection of video output from a ⊙- 2/⊡- connector

The ⊙- 2/⊡- connector may output 4 video signals. Select the outgoing video signal in the following way.

Operation

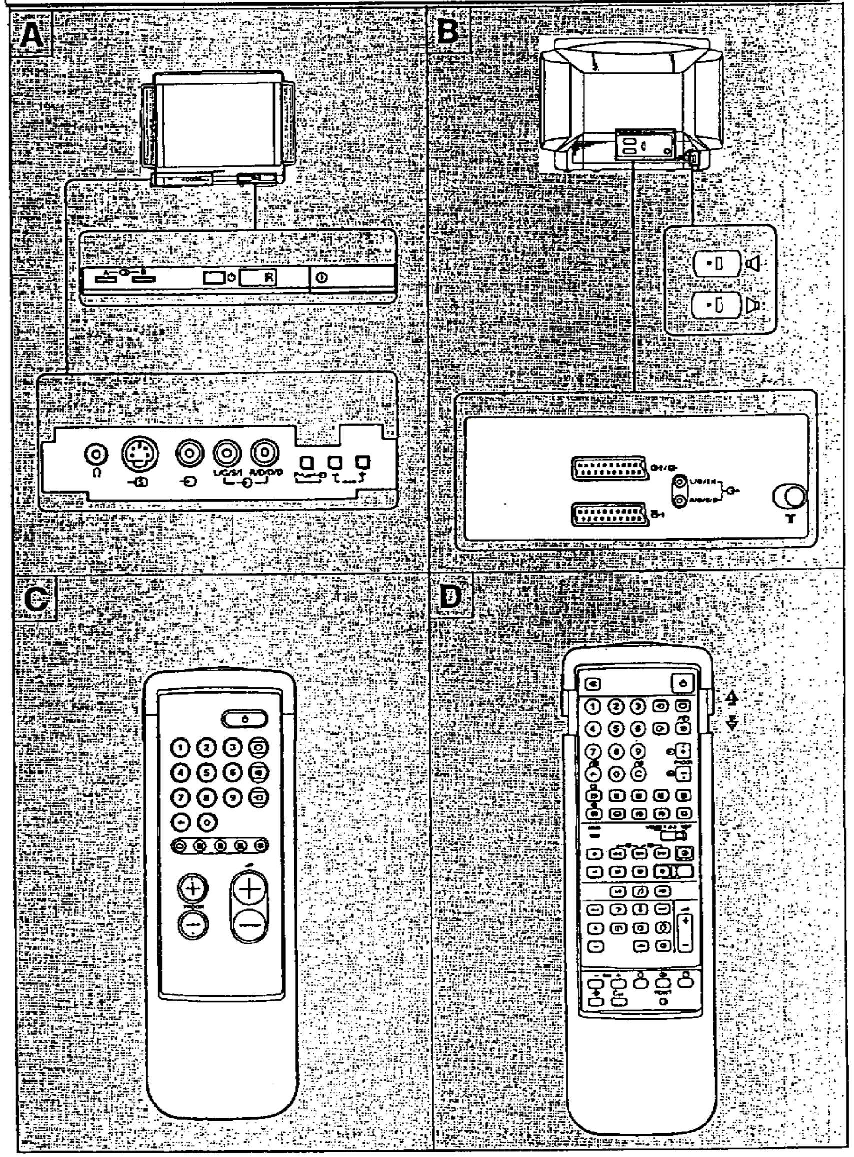
Operation	Result
Press ⊙- repeatedly to select the desired video input.	 The selected video input symbol appears on the screen (see the table following).

Output signal

Symbol	Selected output
1⊙-	Audio/video signal from ⊝-1 connector.
2⊙-	Audio/video signal from ⊙- 2/⊡- connector.
3⊙-	Audio/video signal from ⊕ and -⊙ connectors.
TV⊙-	Audio/video signal from T-type antenna connector ⊤.

1-6. GENERAL INFORMATION

Components identification



This section briefly describes controls of the TV set and the remote control unit, and thier relevant functions.

A	TV set front panel
Indication	**Description**
Φ	Power switch
⏻	Stand-by switch
A-◯◯-B	Bilingual function indications
Ω	Headphones connector (stereo mini-Jack)
-Ⓢ ⊡ -⊙	Input connectors (S-video/video/audio)
P→⊿→⊡	Function selector (programme/volume/input)
– e +	Function adjustment keys

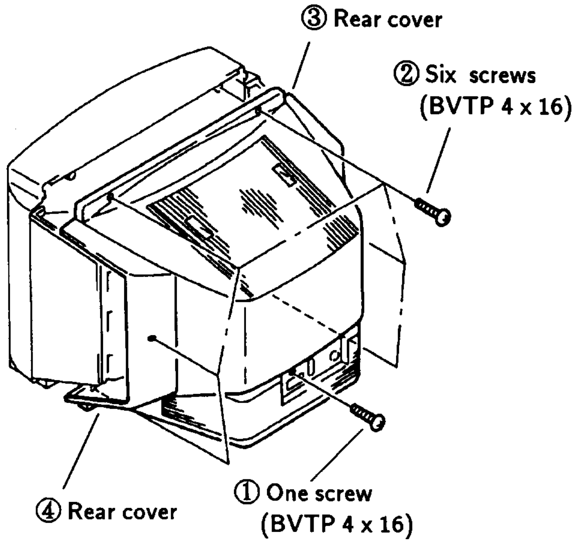
B	TV set rear panel
Indication	**Description**
◁ ▷	Speaker connectors (upper: left speaker; lower: right speaker)
⊡·2/Ⓢ-	Connector 2, Euro AV (SCART, 21-pin). S-video in/video in/TV/video out signals.
⊙-	Connector 1, Euro AV (SCART, 21-pin). RGB in/video in/TV/out signals.
⊖·	Audio output connectors (RCA pin)
╥	Antenna connector (of IEC standard)

C	Remote contro unit — simplified side
Indication	**Description**
⊡	Input selector
⊜	Teletext service key
▢	TV set power switch and TV mode selector
⏻	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
-/--	Channel selection key/ 2-figure programmes
⊿ +/-	Volume adjustment key
PROGR +/-	Programme selection key

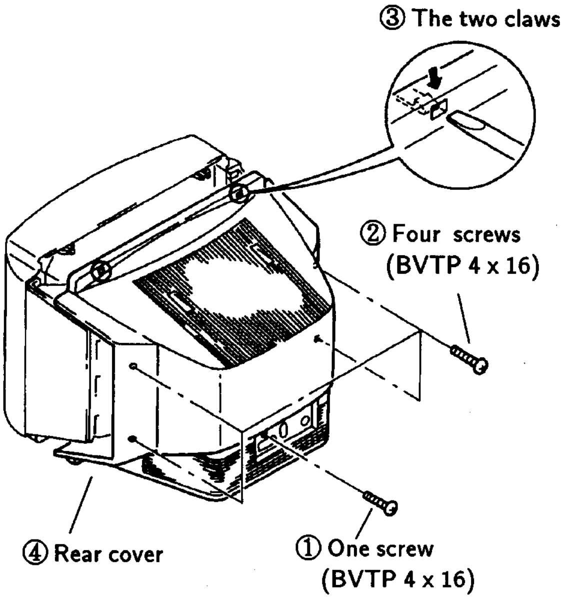
D	Remote control unit — complete side
Indication	**Description**
🔇	Sound muting key
⏻	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
⊡	Input selector
▢	TV set power switch and TV mode selector
⊡	Output selector
⊜	Teletext key
♫	Music programme key
A/B	Bilingual programmes language selection
-/--	Channel selection key/ 2-figure programmes
C	Channel direct selection key
⊖	Special sound effect key
◎	Time display
☐☐☐☐ ☐☐☐☐	Teletext operation keys
⊖	Display key
→•←	Reset key
⊿ +/-	Volume adjustment keys
PROGR +/–	Programme selection keys
◐◑☼◕ ◸⊿♭♯+–	Image and audio adjustment keys
MEM	MEM light indication
VIDEO 1/2/3, MDP	Video unit selector
◀◀ ▶ ▶▶ ■ ❚❚ ●	Video units function key
Coo	Programme cancelling key
-◇	Channel presetting key
+ ⊞ –	Channel tuning keys
◇	Channel storing keys
▢	Broadcasting stations identification key
RESET	Cancel key

SECTION 2
DISASSEMBLY

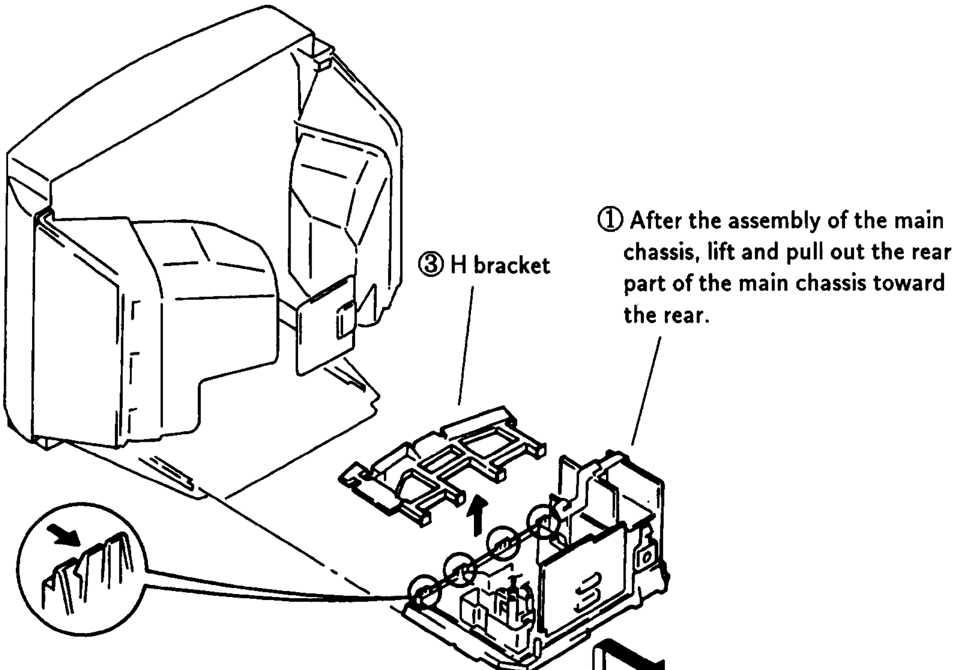
2-1-1. REAR COVER REMOVAL (21 inch)


③ Rear cover
② Six screws (BVTP 4 x 16)
④ Rear cover
① One screw (BVTP 4 x 16)

2-1-2. REAR COVER REMOVAL (25 inch, 29 inch)


③ The two claws
② Four screws (BVTP 4 x 16)
④ Rear cover
① One screw (BVTP 4 x 16)

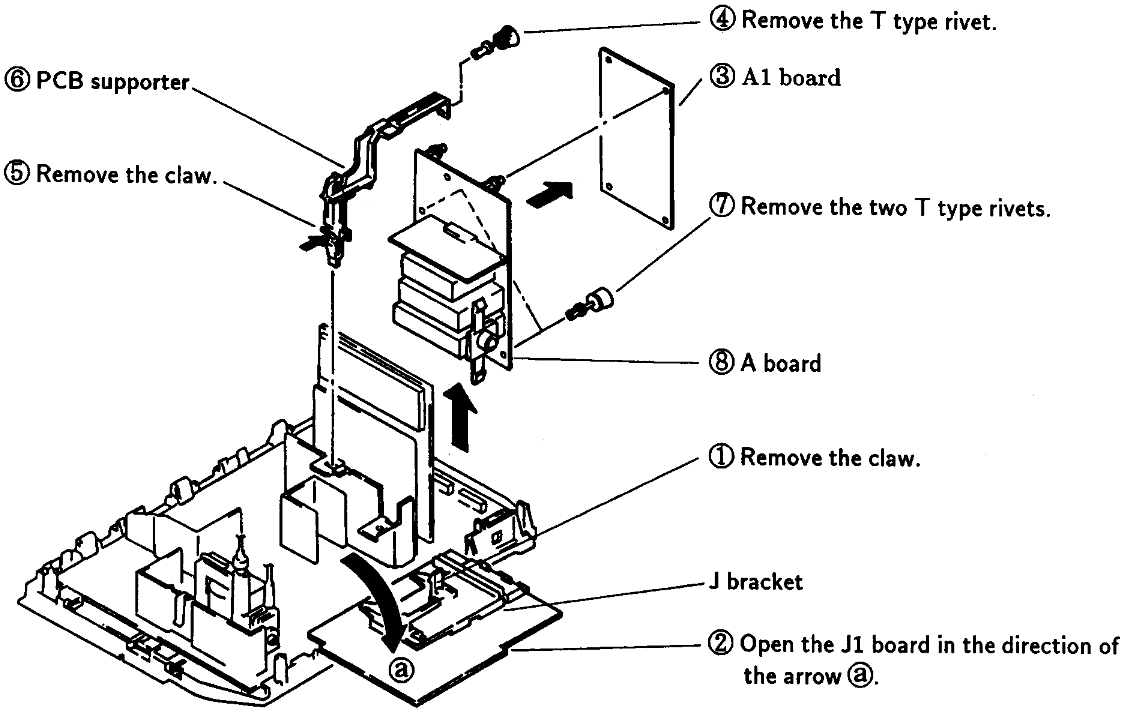
2-2. CHASSIS ASSEMBLY REMOVAL



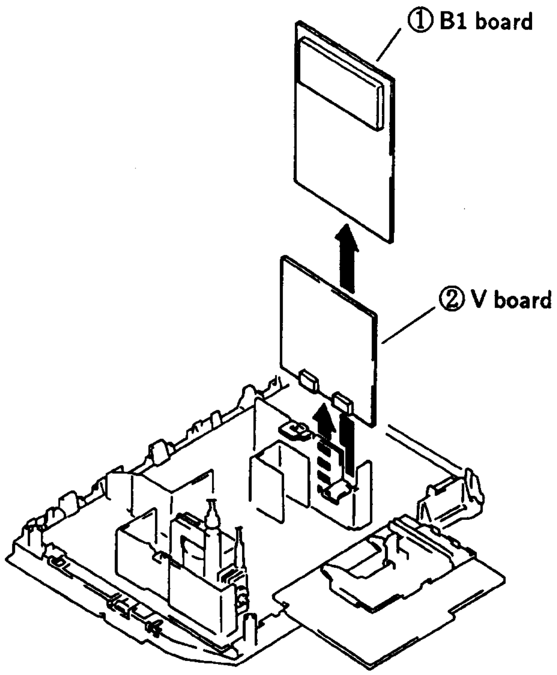
① After the assembly of the main chassis, lift and pull out the rear part of the main chassis toward the rear.

② Push the four claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

2-3. A, A 1 AND J1 BOARDS REMOVAL


④ Remove the T type rivet.
⑥ PCB supporter
③ A1 board
⑤ Remove the claw.
⑦ Remove the two T type rivets.
⑧ A board
① Remove the claw.
J bracket
② Open the J1 board in the direction of the arrow ⓐ.
ⓐ

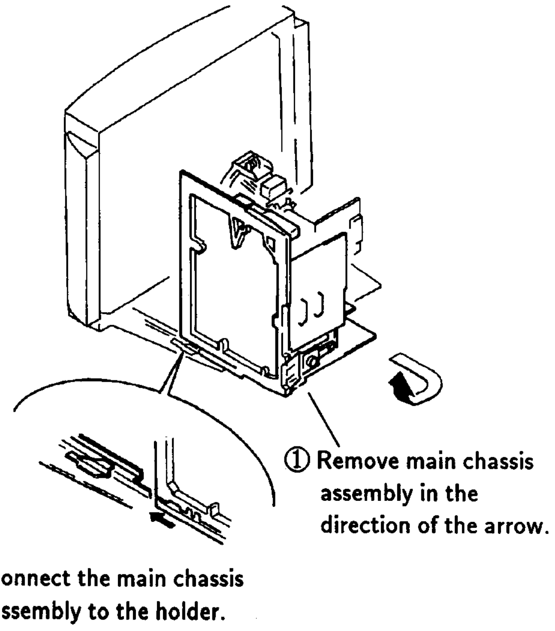
2-4. B1 AND V BOARDS REMOVAL


① B1 board
② V board

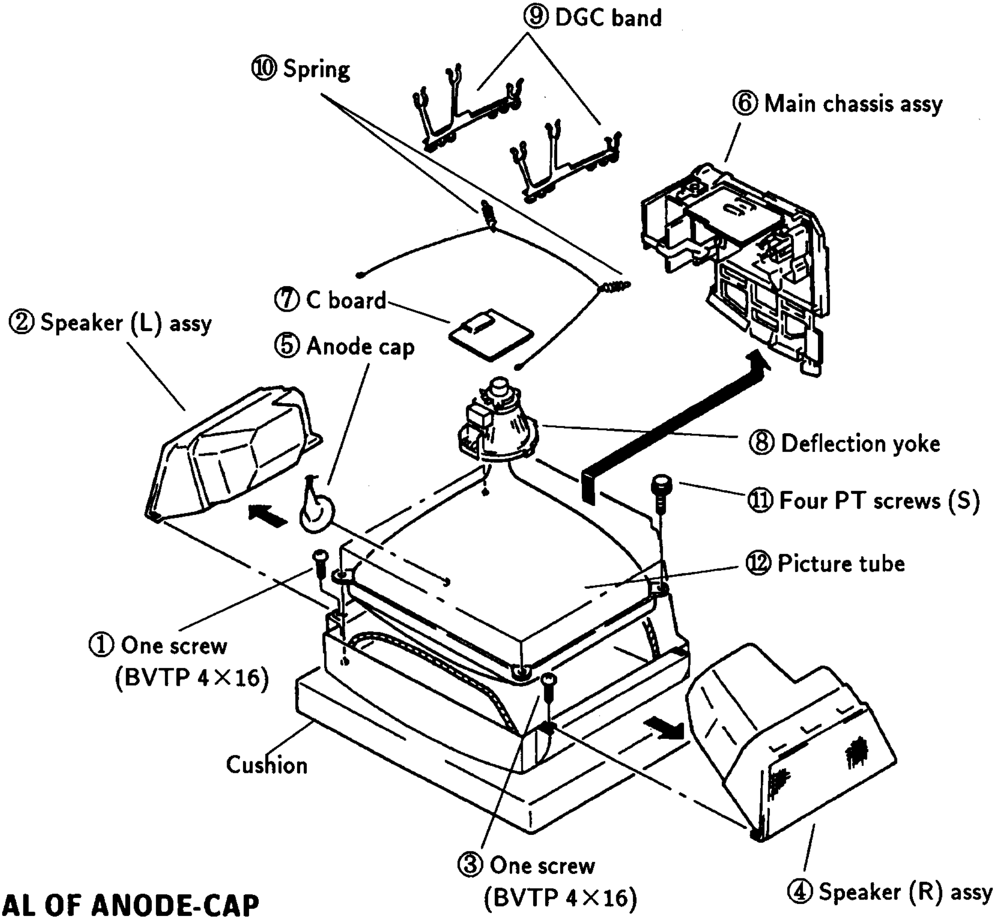
Note : 10 pin extension cable (S-0945-001-0)

2-5. SERVICE POSITION

※ Remove the H bracket from the main chassis assembly and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)


① Remove main chassis assembly in the direction of the arrow.
② Connect the main chassis assembly to the holder.

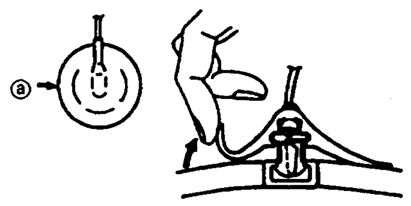
2-6-1. PICTURE TUBE REMOVAL (21 inch)


⑨ DGC band
⑩ Spring
⑥ Main chassis assy
⑦ C board
② Speaker (L) assy
⑤ Anode cap
⑧ Deflection yoke
⑪ Four PT screws (S)
⑫ Picture tube
① One screw
(BVTP 4×16)
Cushion
③ One screw
(BVTP 4×16)
④ Speaker (R) assy

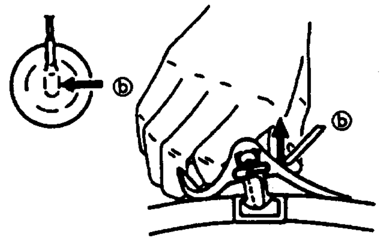
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

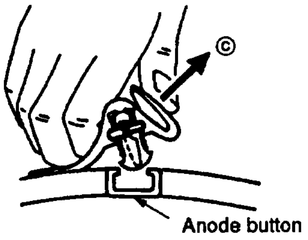
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

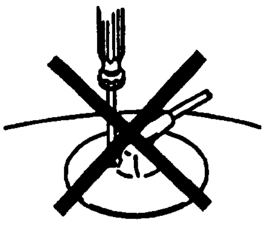
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

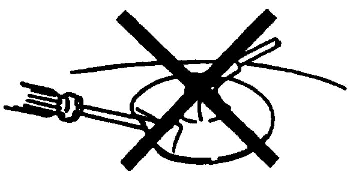
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

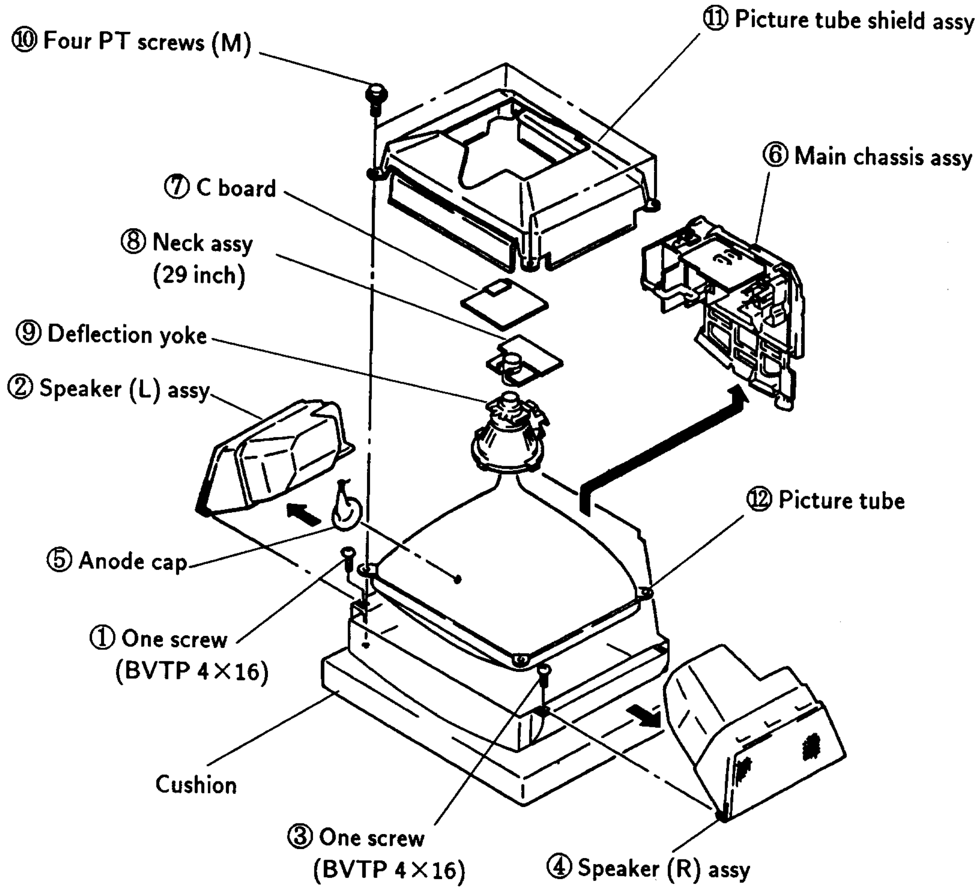
② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





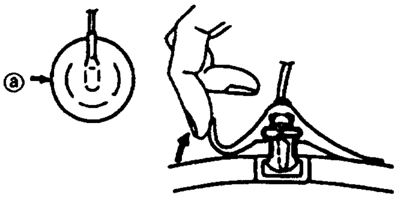
2-6-2. PICTURE TUBE REMOVAL (25 inch, 29 inch)


⑩ Four PT screws (M)
⑪ Picture tube shield assy
⑥ Main chassis assy
⑦ C board
⑧ Neck assy (29 inch)
⑨ Deflection yoke
② Speaker (L) assy
⑫ Picture tube
⑤ Anode cap
① One screw (BVTP 4×16)
Cushion
③ One screw (BVTP 4×16)
④ Speaker (R) assy

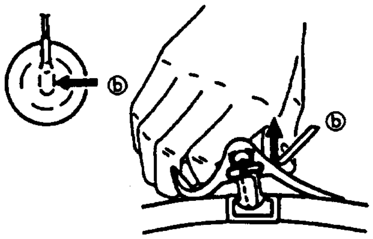
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

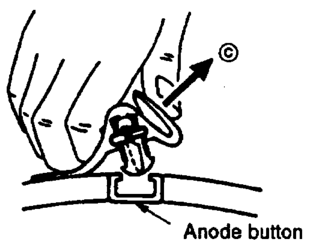
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
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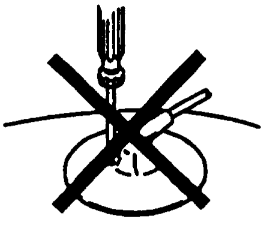
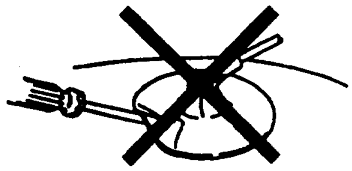




SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch below should be set as follows unless otherwise noted :

◑ CONTRASTcontrol········ 80%(or Normal by commander)
☼ BRIGHTNESS control····· 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation: (21 inch, 25 inch)

- Set the side of the unit with the PICTUE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
   CONTRAST } normal
   BRIGHTNESS }
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined,tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

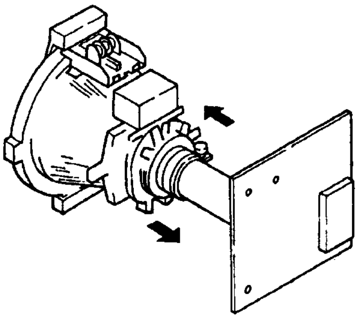


Fig.3-1

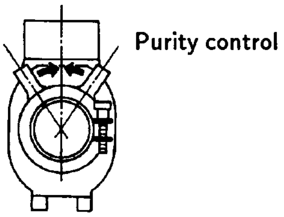

Purity control

Fig.3-2

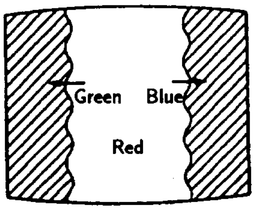

Green
Blue
Red

Fig.3-3

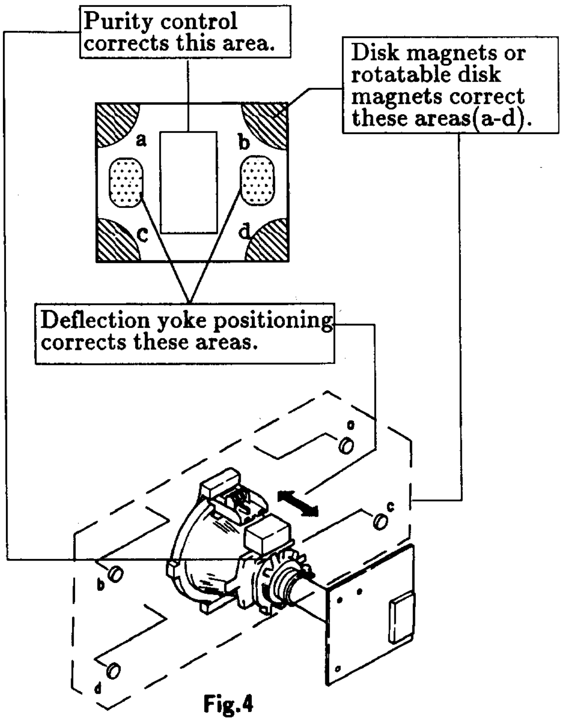

Purity control corrects this area.
Disk magnets or rotatable disk magnets correct these areas(a-d).
a
b
c
d
Deflection yoke positioning corrects these areas.

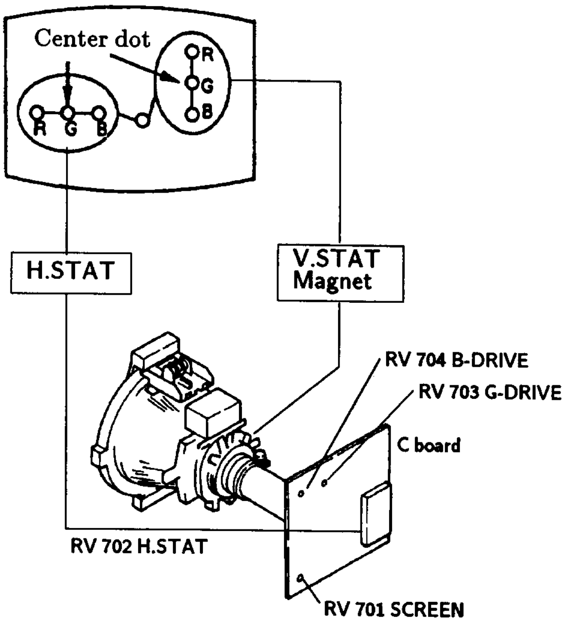
Fig.4

3-2. CONVERGENCE

Preparation:

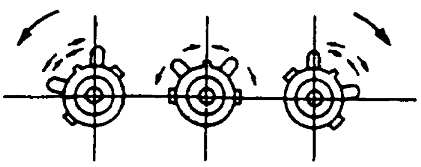
- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern. ,

(1) Horizontal and Vertical Static Convergence

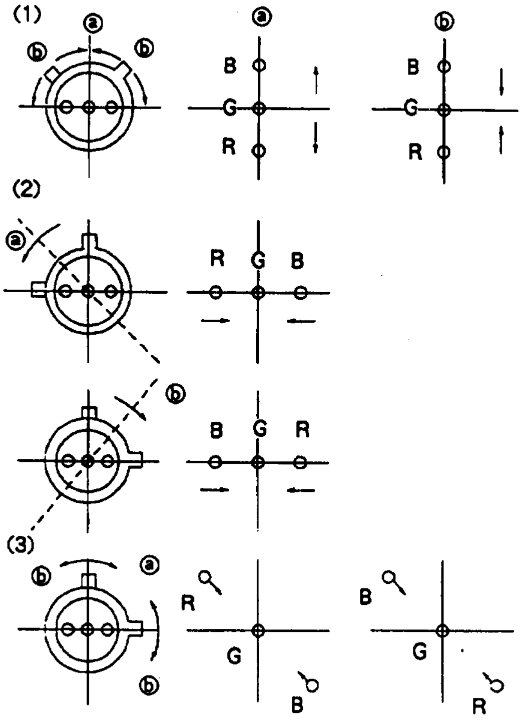

Center dot
R
G
B
R G B
H.STAT
V.STAT Magnet
RV 704 B-DRIVE
RV 703 G-DRIVE
C board
RV 702 H.STAT
RV 701 SCREEN

1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.

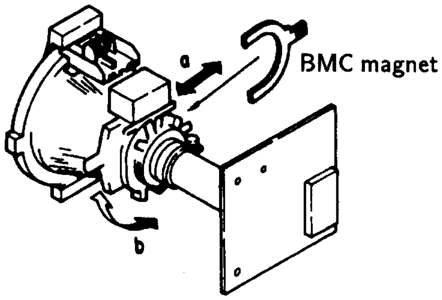


4.When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.


(1)
ⓐ
ⓑ
ⓑ
ⓐ
B
G
R
ⓑ
B
G
R
(2)
ⓐ
R G B
ⓑ
B G R
(3)
ⓑ
ⓐ
ⓑ
R
G
B
B
G
R

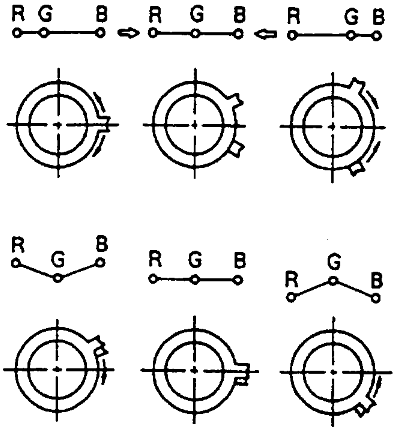
(KV-21 inch only)

If the red and blue dot do not converge with green dots, perform following steps.
Move BMC magnet (a) to correct insufficient H.static convergence.
Rotate BMC magnet (b) to correct insufficient V.static convergence.
In either case, repeat Beam Landing Adjustment.

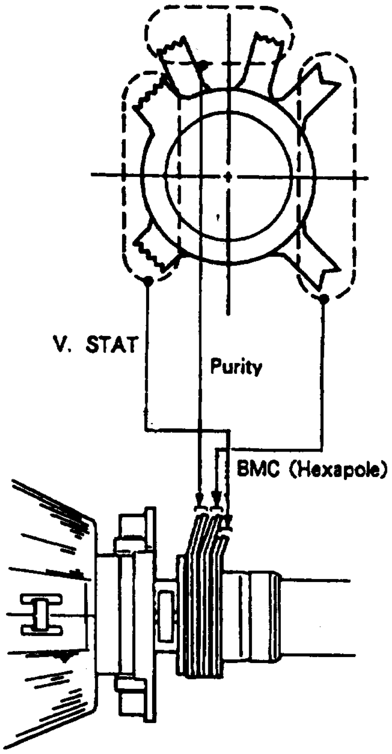

a
BMC magnet
b

(KV-25 inch only)

- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B

- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

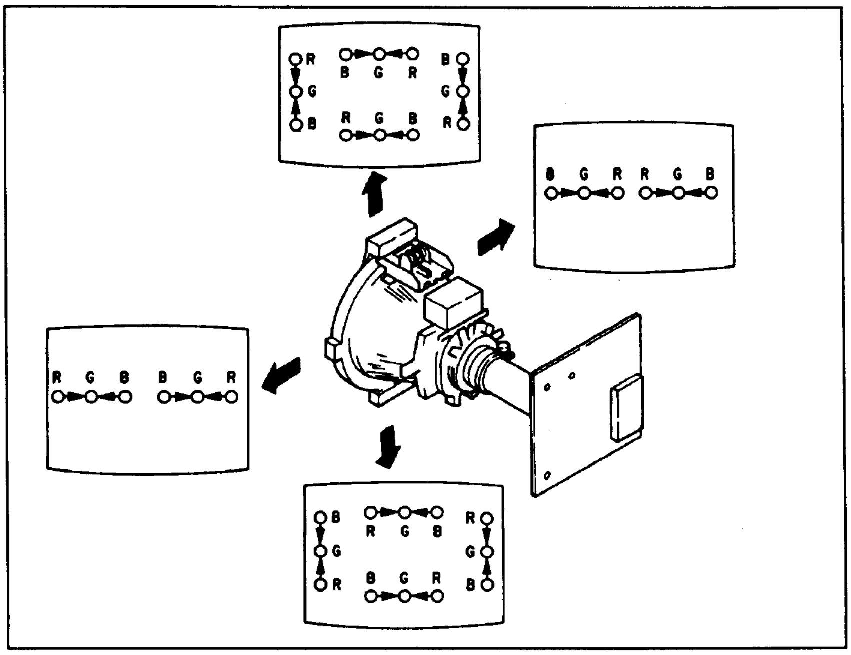

V. STAT
Purity
BMC (Hexapole)

(2)Dynamic Convergence Adjustment

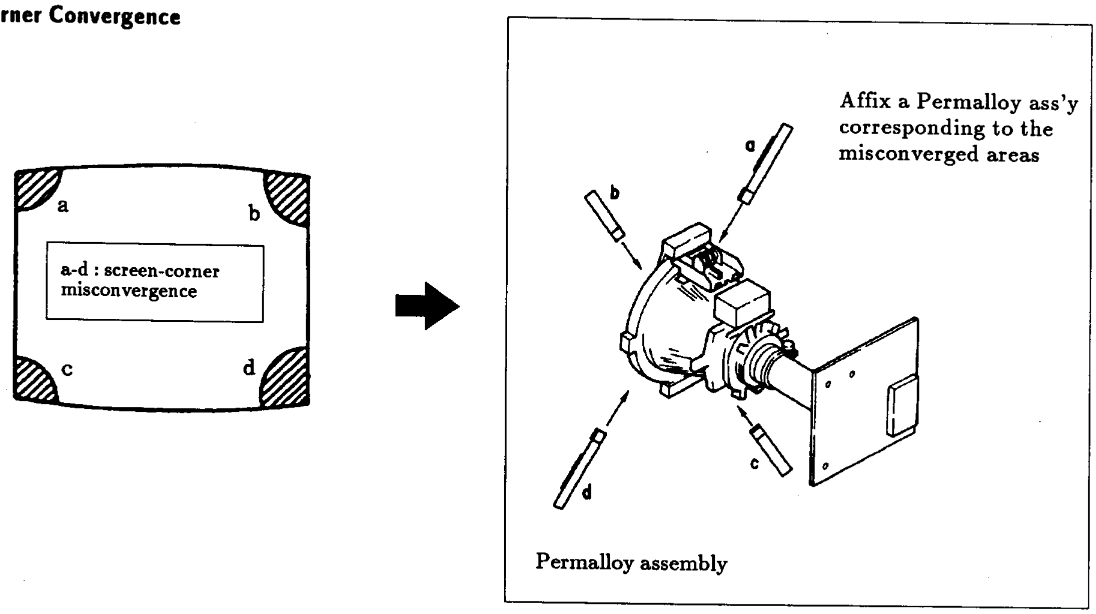
Preparation:

● Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergenceas shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

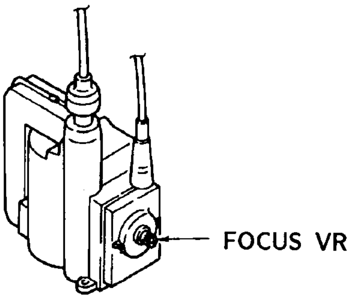

R G B
B G R
R G B
B G R
B G R R G B
R G B B G R
B G R
R G B
B G R
R G B

(3) Screen-corner Convergence

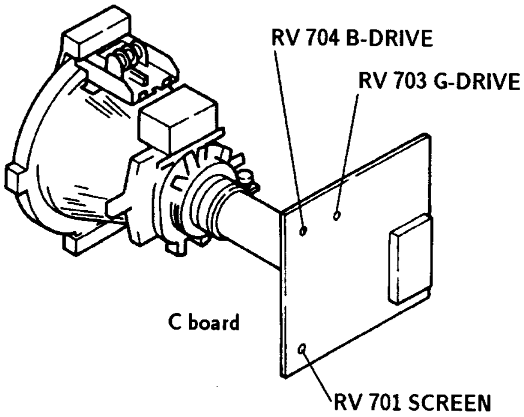

a
b
a-d : screen-corner misconvergence
c
d
Affix a Permalloy ass'y corresponding to the misconverged areas
a
b
c
d
Permalloy assembly

3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



3-4. SCREEN (G 2) and WHITE BALANCE


RV 704 B-DRIVE
RV 703 G-DRIVE
C board
RV 701 SCREEN

Screen (G 2) Setting

1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 170 V DC to the cathodes of R,G and B from an external power power source.
4. While watching the picture, adjust the G 2 volume (RV701) immediately before fly-back line disappears.

White Balance Adjustment

1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the following using RV 704 (B DRIVE) and RV 703 (G DRIVE)

In the following adjustments, the CONTRAST, COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

Preparations : (29 inch)

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Bightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

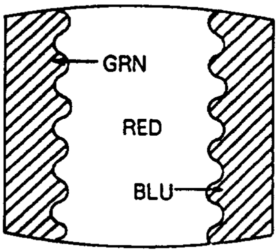


Fig. 3-3

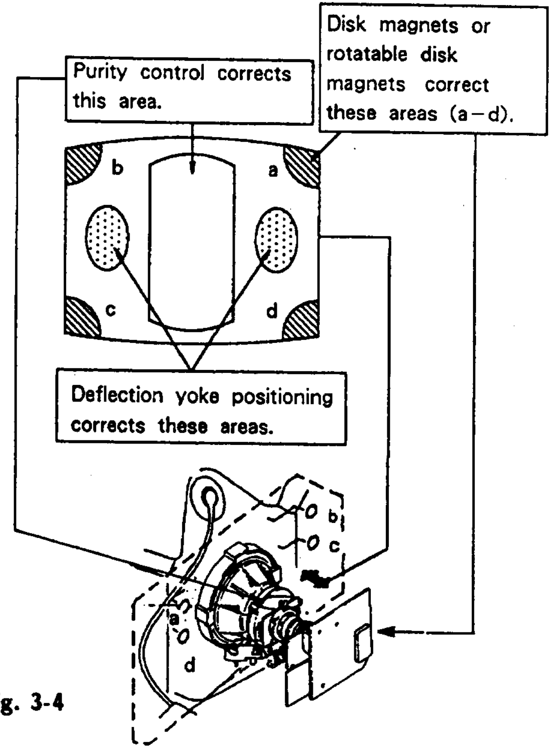

Disk magnets or rotatable disk magnets correct these areas (a–d).
Purity control corrects this area.
b
a
c
d
Deflection yoke positioning corrects these areas.
b
c
a
d

Fig. 3-4

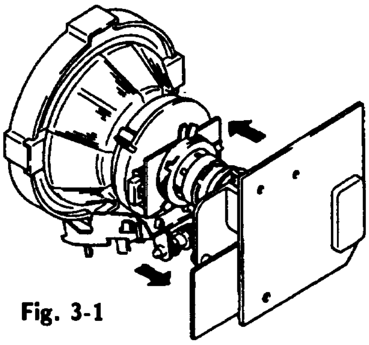


Fig. 3-1

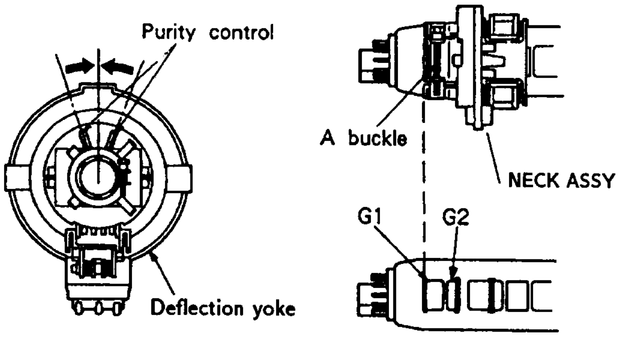

Purity control
Deflection yoke
A buckle
NECK ASSY
G1
G2

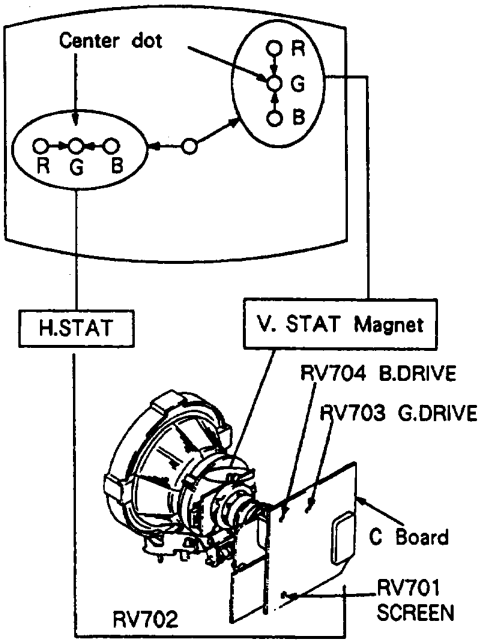
Fig. 3-2

3-2. CONVERGENCE

Preparations :

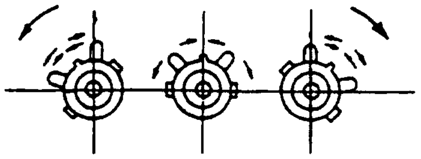
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

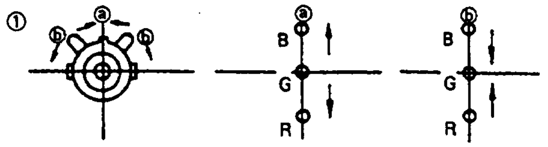

Center dot
R
G
B
R G B
H.STAT
V. STAT Magnet
RV704 B.DRIVE
RV703 G.DRIVE
C Board
RV701
SCREEN
RV702

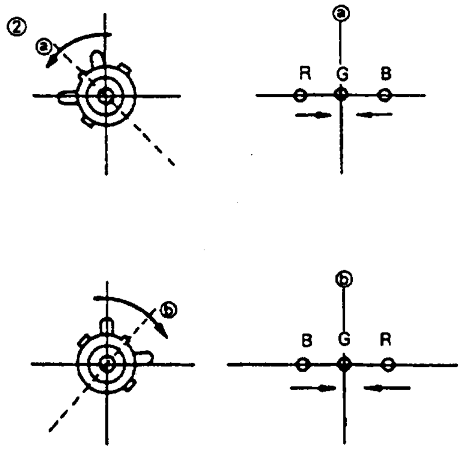
1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

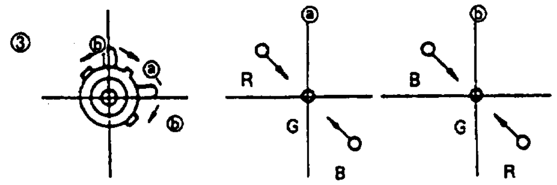
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



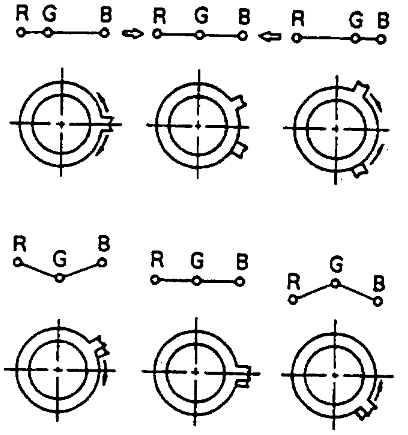
4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

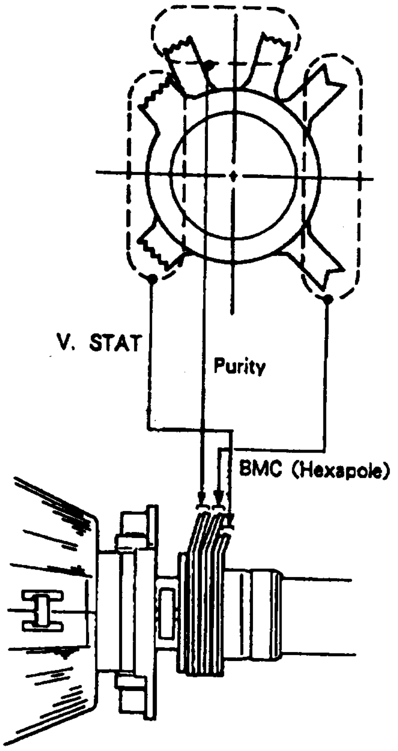






- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B


V. STAT
Purity
BMC (Hexapole)

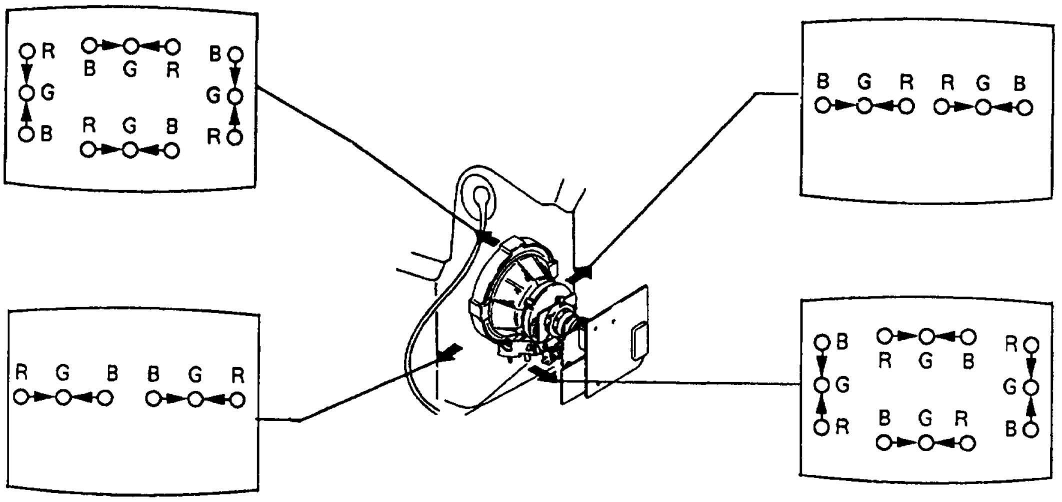
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) Dynamic convergence adjustment

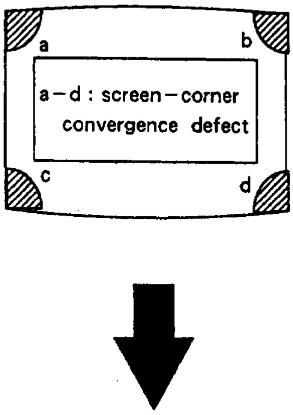
Preparations :

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

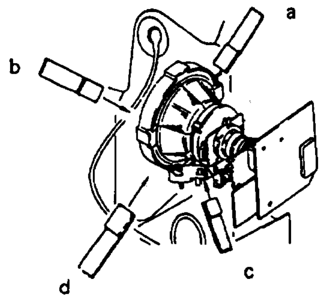
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.


R G B
B G R
R G B
B G R
B G R R G B
R G B B G R
B R
G G
R B
R G B
B G R

(3) Screen corner convergence



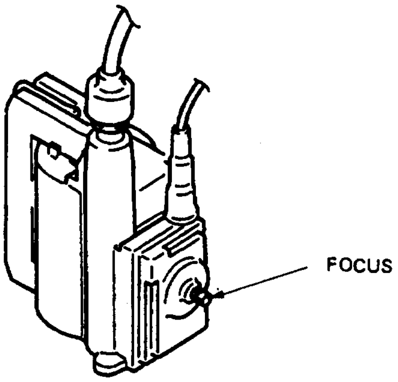
Install the permalloy assembly for the section with faulty.



Permalloy

3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

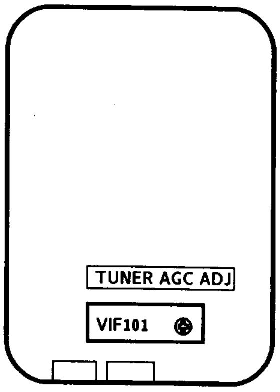
[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

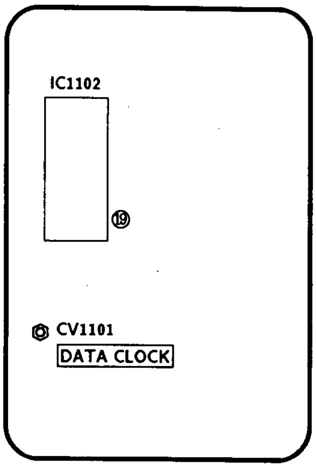

TUNER AGC ADJ
VIF101

A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (AGC VR)

1. Align with an appropriate signal between stations.
2. Adjust AGC VR so that snow noise and cross modulation just disappear from the picture.

4-2. A1 BOARD ADJUSTMENTS

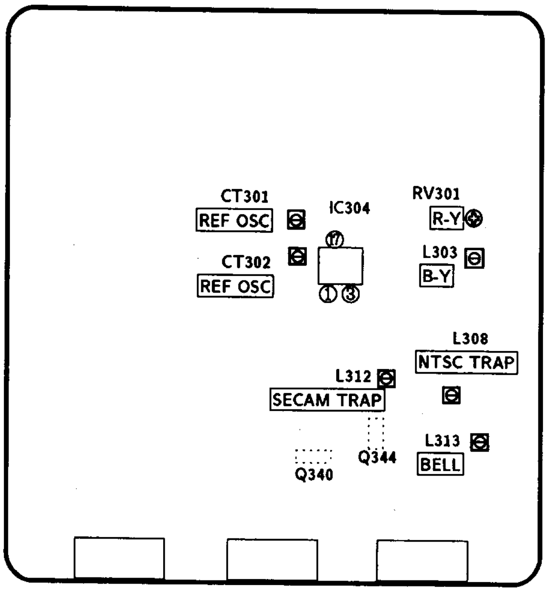

IC1102
⑲
CV1101
DATA CLOCK

A1 BOARD (COMPONENT SIDE)

DATA CLOCK ADJUSTMENT (CV1101)

1. Tune in a no signal.
2. Connect a frequency counter to pin⑲ of IC1102 (PCLK) through a probe of 10 : 1
3. Adjust CV1101 (DATA CLOCK) so that frequency becomes 728.022KHz±1Hz.

4-3. B1 BOARD ADJUSTMENTS


CT301
REF OSC
IC304
⑰
RV301
R-Y
CT302
REF OSC
①③
L303
B-Y
L308
NTSC TRAP
L312
SECAM TRAP
Q344
Q340
L313
BELL

B1 BOARD (COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

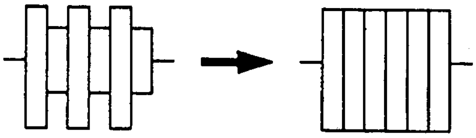
1. Input a PAL color bar signal.
2. Ground pin ⑰ of the IC304.
3. Adjust CT302 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑰ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑰ of IC304.

BELL FILTER ADJUSTMENT (L313)

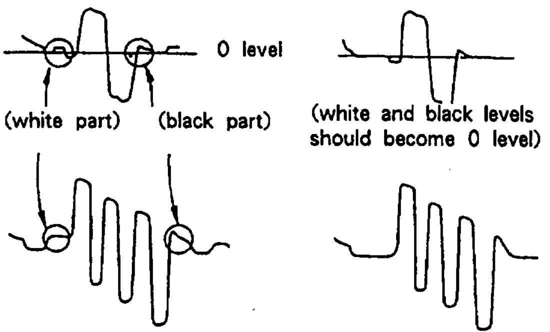
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.



<Before Adjustment> <After Adjustment>

DISCRIMINATION ADJUSTMENTS (RV301 and L303)

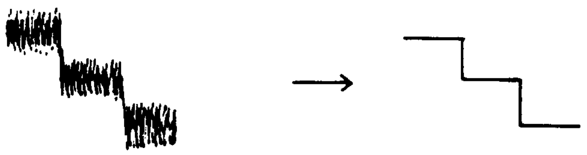
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.
   Connect the oscilloscope to pin ③ of IC304.
4. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.



(Before Adjustment) (After adjustment)

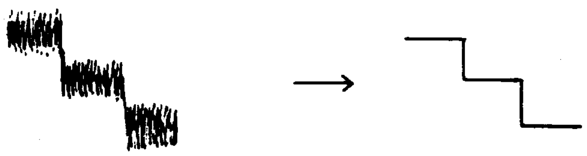
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

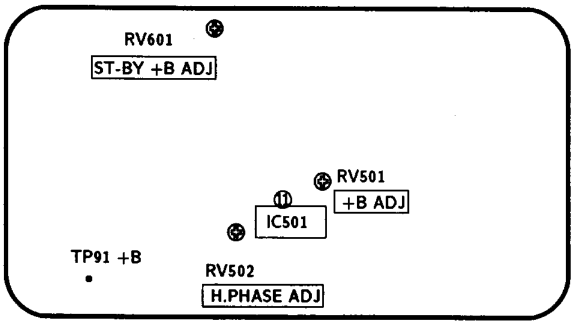


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-4. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

+B ADJUSTMENT (RV501)

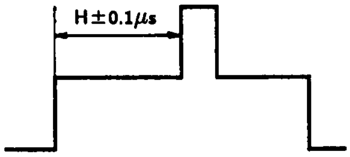
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain 135±0.2V.

ST-BY +B ADJUSTMENT (RV601)

1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain 135±3V.
4. Take the system out of ⏻ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

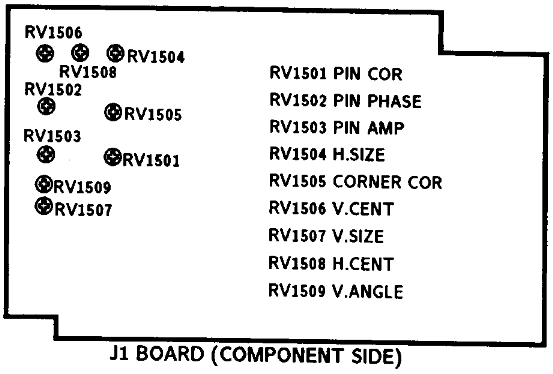
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to H±0.1μs.



Standard of H. PHASE

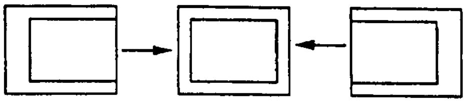
Model Size	H
21″	5.6μs
25″	5.1μs
29″	5.5μs

4-5. J1 BOARD ADJUSTMENTS

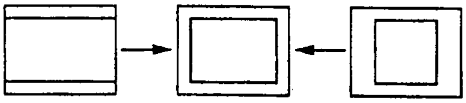

RV1506
RV1504
RV1508
RV1502
RV1505
RV1503
RV1501
RV1509
RV1507
RV1501 PIN COR
RV1502 PIN PHASE
RV1503 PIN AMP
RV1504 H.SIZE
RV1505 CORNER COR
RV1506 V.CENT
RV1507 V.SIZE
RV1508 H.CENT
RV1509 V.ANGLE

J1 BOARD (COMPONENT SIDE)

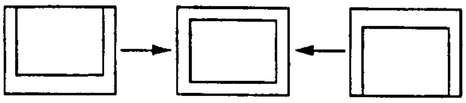
RV1508
H. CENT (HORIZONTAL CENTER)



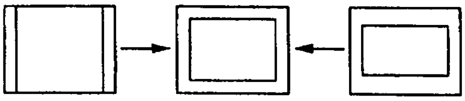
RV1504
H. SIZE (HORIZONTAL SIZE)



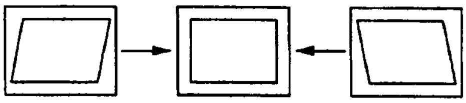
RV1506
V. CENT (VERTICAL CENTER)



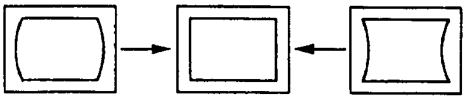
RV1507
V. SIZE (VERTICAL SIZE)



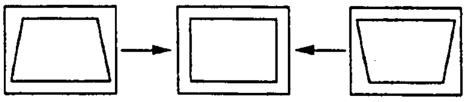
RV1509
V. ANGLE (VERTICAL ANGLE)



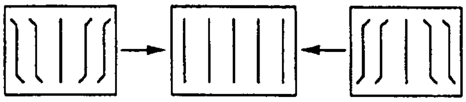
RV1503
PIN AMP (PINCUSHION AMPLIFIER)



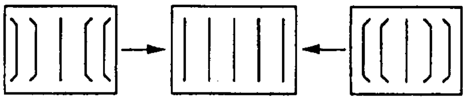
RV1502
PIN PHASE (PINCUSHION PHASE)



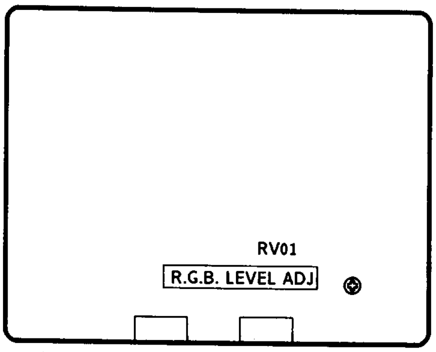
RV1501
PIN. COR (PINCUSHION CORRECT)



RV1505
CORNER. COR (CORNER CORRECT)



4-6. V BOARD ADJUSTMENT


RV01
R.G.B. LEVEL ADJ

V BOARD (COMPONENT SIDE)

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

4-7. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press →•← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and − simultaneusly, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander.
   (SUB mode is released)

If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press →•← on the remote commander to put the system into normal mode.
   Set the ⊛ color to its normal state.

3-5. Steps are the same as above.

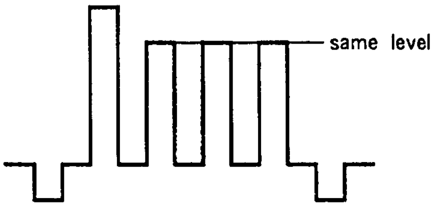
6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.

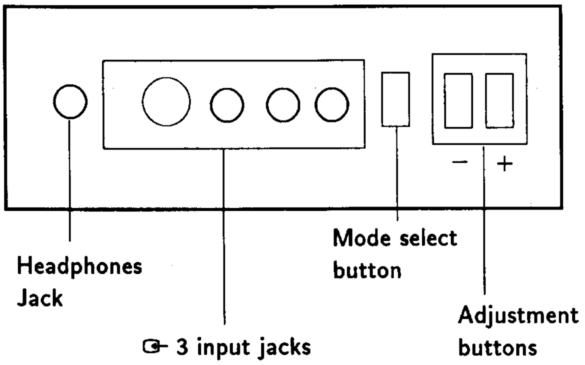
7. Same as step 7 above.

8. Press →•← on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

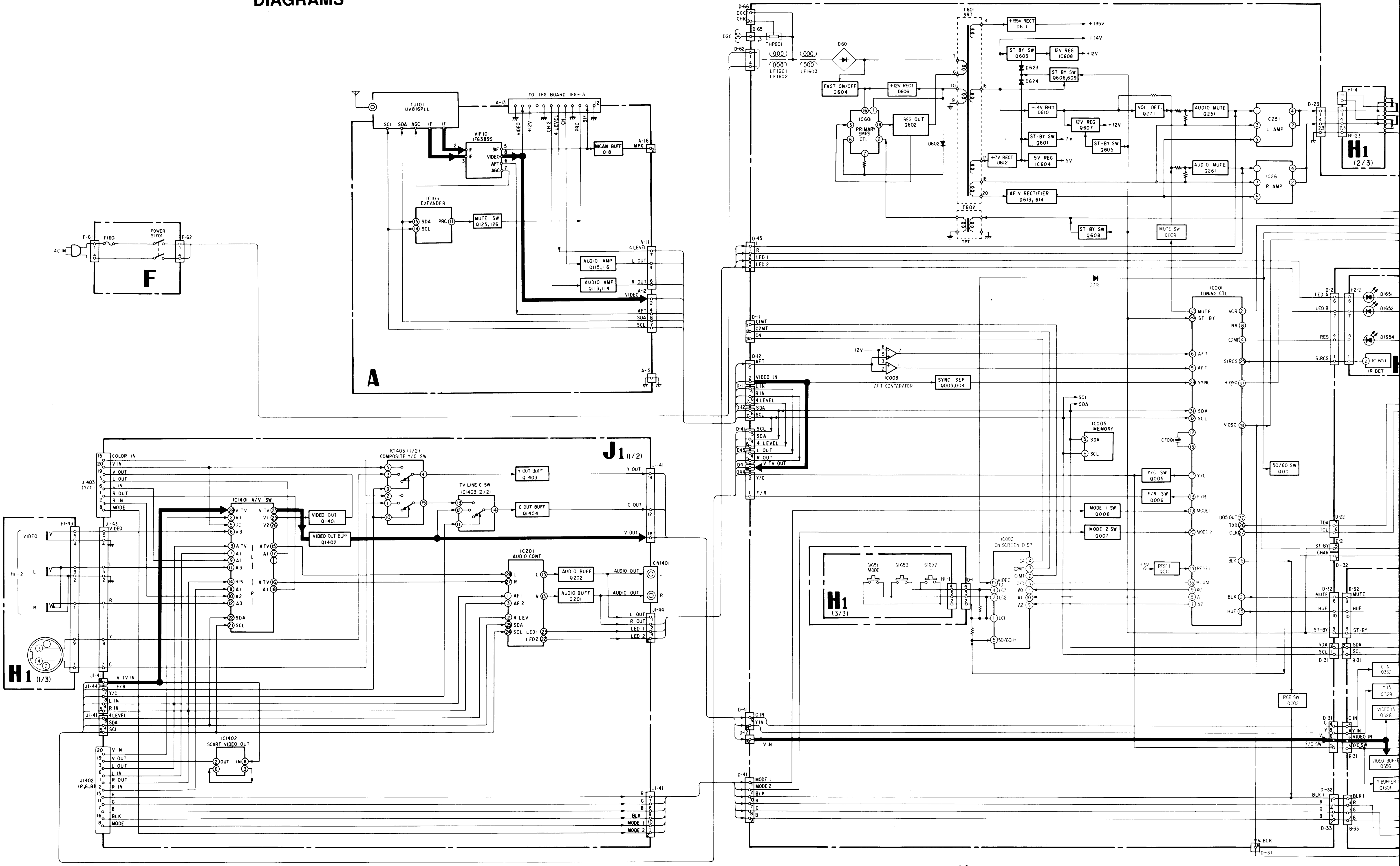
1. Set the system to receive color bars.
2. Press →•← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and − simultaneusly, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the ◇ (store) button of the remote commander. (SUB mode is released)

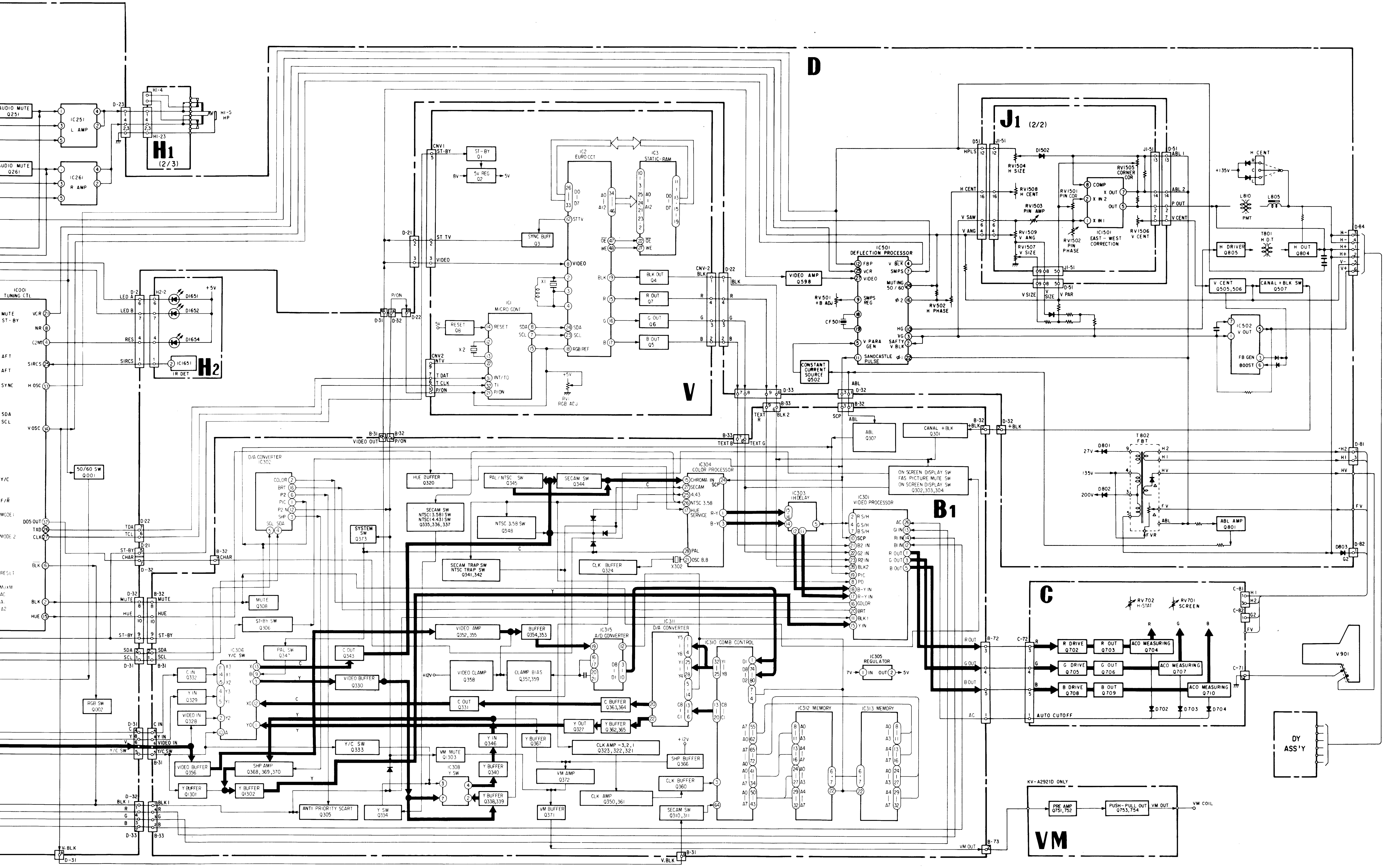




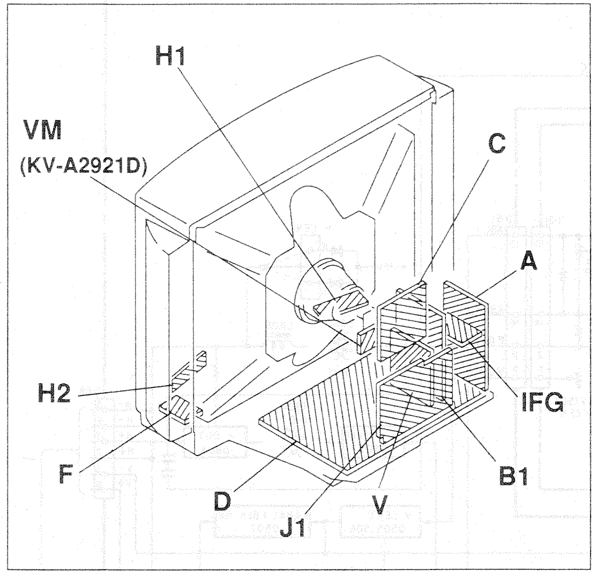
5-1. BLOCK DIAGRAM

SECTION 5
DIAGRAMS


TU101 UV816PLL
SCL SDA AGC IF IF
VIF101 IFG389S
SIF VIDEO AFT AGC
TO IFG BOARD IFG-13
NICAM BUFF Q181
MPX
IC103 EXPANDER
SDA SCL PRC
MUTE SW Q125,126
AUDIO AMP Q115,116
AUDIO AMP Q113,114
4 LEVEL
L OUT
R OUT
VIDEO
AFT
SDA
SCL
A
F1601
POWER S1701
AC IN
F
J1 (1/2)
J1403 (Y/C)
COLOR IN
V IN
V OUT
L OUT
L IN
R OUT
R IN
MODE
IC1401 A/V SW
VIDEO OUT Q1401
VIDEO OUT BUFF Q1402
IC1403 (1/2) COMPOSITE Y/C SW
TV LINE C SW IC1403 (2/2)
Y OUT BUFF Q1403
C OUT BUFF Q1404
Y OUT
C OUT
V OUT
IC201 AUDIO CONT
AUDIO BUFF Q202
AUDIO BUFF Q201
AUDIO OUT
CN1401
LED 1
LED 2
IC1402 SCART VIDEO OUT
J1402 (R,G,B)
R
G
B
BLK
MODE 1
MODE 2
H1 (1/3)
VIDEO
L
R
V TV IN
F/R
Y/C
T601 SRT
+135V RECT D611
+135V
+14V
THP601
D601
LF1601 LF1602
LF1603
ST-BY SW Q603
12V REG IC608
+12V
D623
D624
ST-BY SW Q606,609
FAST ON/OFF Q604
+12V RECT D606
IC601 PRIMARY SMRS CTL
REG OUT Q602
D602
+14V RECT D610
12V REG Q607
ST-BY SW Q601
ST-BY SW Q605
+7V RECT D612
5V REG IC604
7V
5V
AF V RECTIFIER D613, 614
T602
TPT
ST-BY SW Q608
MUTE SW Q609
VOL DET. Q271
AUDIO MUTE Q251
AUDIO MUTE Q261
IC251 L AMP
IC261 R AMP
H1 (2/3)
D012
IC001 TUNING CTL
MUTE
ST-BY
VCR
NR
C2MT
AFT
SIRCS
SYNC
H OSC
SDA
SCL
V OSC
CF001
Y/C
F/R
MODE 1
MODE 2
RESET
BLK
HUE
DOS OUT
TXD
CLK
IC003 AFT COMPARATOR
SYNC SEP Q003,004
IC005 MEMORY
Y/C SW Q005
F/R SW Q006
MODE 1 SW Q008
MODE 2 SW Q007
RESET Q010
50/60 SW Q001
RGB SW Q002
IC002 ON SCREEN DISP
S1651 MODE
S1653
S1652
H1 (3/3)
LED A
LED B
RES
SIRCS
D1651
D1652
D1654
IC1651 IR DET
TDA
TCL
ST-BY
CHAR
MUTE
HUE
ST-BY
SDA
SCL
C IN
Y IN
VIDEO IN
Y/C SW
C IN Q332
Y IN Q329
VIDEO IN Q328
VIDEO BUFFER Q356
Y BUFFER Q1301
BLK 1
V IN
V.BLK
D-31
D-32
D-33
B-31
B-32
B-33


D
J1 (2/2)
H1 (2/3)
H2
V
B1
C
VM
IC251 L AMP
IC261 R AMP
AUDIO MUTE Q251
AUDIO MUTE Q261
HI-5 HP
IC001 TUNING CTL
IC1651 IR DET
D1651
D1652
D1654
ST-BY Q1
5V REG Q2
SYNC BUFF Q3
IC1 MICRO CONT
IC2 EURO CCT
IC3 STATIC-RAM
RESET Q8
BLK OUT Q4
R OUT Q7
G OUT Q6
B OUT Q5
RV1 RGB ADJ
VIDEO AMP Q598
IC501 DEFLECTION PROCESSOR
RV501 +B ADJ
RV502 H PHASE
CF501
CONSTANT CURRENT SOURCE Q502
RV1504 H SIZE
RV1508 H CENT
RV1503 PIN AMP
RV1509 V ANG
RV1507 V SIZE
RV1501 PIN COR
RV1502 PIN PHASE
RV1505 CORNER COR
RV1506 V CENT
IC1501 EAST-WEST CORRECTION
D1502
H CENT
L810 PMT
L805
T801 H.D.T
H DRIVER Q805
H OUT Q804
V CENT Q505,506
CANAL +BLK SW Q507
IC502 V OUT
FB GEN
BOOST
T802 FBT
D801
D802
D803
ABL AMP Q801
ABL Q307
CANAL +BLK Q301
ON SCREEN DISPLAY SW FAS PICTURE MUTE SW ON SCREEN DISPLAY SW Q302,303,304
50/60 SW Q001
RGB SW Q002
D/A CONVERTER IC302
HUE BUFFER Q320
PAL/NTSC SW Q345
SECAM SW Q344
IC304 COLOR PROCESSOR
SECAM SW NTSC(3.58) SW NTSC(4.43) SW Q335,336,337
NTSC 3.58 SW Q348
SYSTEM SW Q373
SECAM TRAP SW NTSC TRAP SW Q341,342
CLK BUFFER Q324
X302
IC303 1H DELAY
IC301 VIDEO PROCESSOR
MUTE Q308
ST-BY SW Q306
VIDEO AMP Q352,355
BUFFER Q354,353
IC315 A/D CONVERTER
IC311 D/A CONVERTER
IC310 COMB CONTROL
IC305 REGULATOR
IC306 Y/C SW
PAL SW Q347
C OUT Q343
VIDEO BUFFER Q330
VIDEO CLAMP Q358
CLAMP BIAS Q357,359
C IN Q332
Y IN Q329
VIDEO IN Q328
C OUT Q331
C BUFFER Q363,364
Y OUT Q327
Y BUFFER Q362,365
Y/C SW Q333
VM MUTE Q1303
Y IN Q346
Y BUFFER Q367
CLK AMP -3,2,1 Q323,322,321
SHP BUFFER Q366
VIDEO BUFFER Q356
SHP AMP Q368,369,370
Y BUFFER Q1301
Y BUFFER Q1302
IC308 Y SW
Y BUFFER Q340
Y BUFFER Q338,339
VM AMP Q372
CLK BUFFER Q360
CLK AMP Q350,361
IC312 MEMORY
IC313 MEMORY
ANTI PRIORITY SCART Q305
Y SW Q334
VM BUFFER Q371
SECAM SW Q310,311
RV702 H-STAT
RV701 SCREEN
R DRIVE Q702
R OUT Q703
ACO MEASURING Q704
G DRIVE Q705
G OUT Q706
ACO MEASURING Q707
B DRIVE Q708
B OUT Q709
ACO MEASURING Q710
D702
D703
D704
AUTO CUTOFF
V901
DY ASS'Y
KV-A2921D ONLY
PRE AMP Q751,752
PUSH-PULL OUT Q753,754
VM COIL

5-2. CIRCUIT BOARDS LOCATION


H1
VM
(KV-A2921D)
C
A
H2
IFG
F
B1
D
J1
V

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

5-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

— Conductor Side —

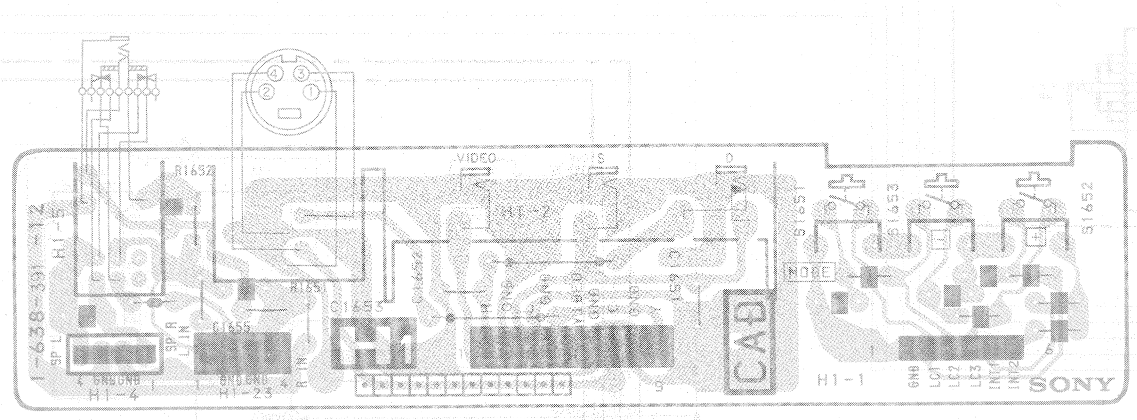
Note:

- All capacitors are in μF unless otherwise noted.
  pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

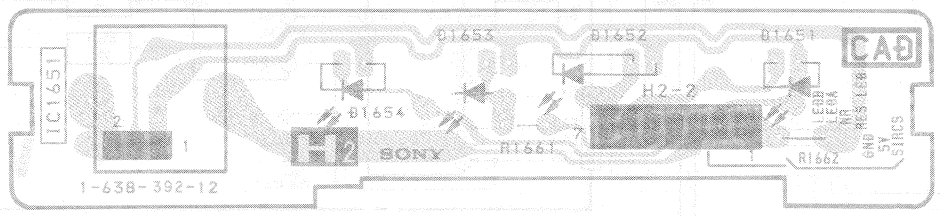
  Pitch: 5 mm
  Rating electrical power 1/4W
- METAL FILM (:RN) resistors in 1%, 1/6W unless otherwise secified.
- ▭: nonflammable resistor.
- △: internal component.
- ▭: panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⏚: earth-ground.
- ⏊: earth-chassis.
- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- ▬: B+ bus.
- ▨: signal path. (RF)
- Circuled numbers are waveform references.

H1 [CONTROL SW, AV INPUT, HEADPHONE] **H2** [SIRCS RECEIVER, INDICATOR] **F** [AC IN, POWER SW] **A** [TUNER

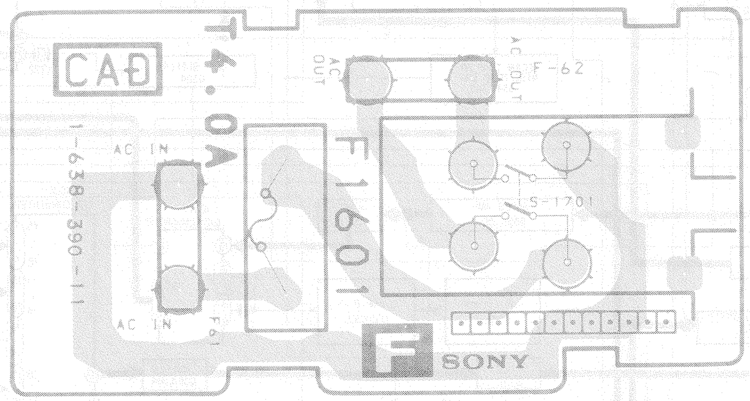
— H1 Board —


VIDEO
S
H1-2
R1652
R1651
C1653
C1652
C1655
1-638-391-12
H1-5
H1-4
H1-3
H1-1
MODE
S1651
S1653
S1652
CAD
SONY

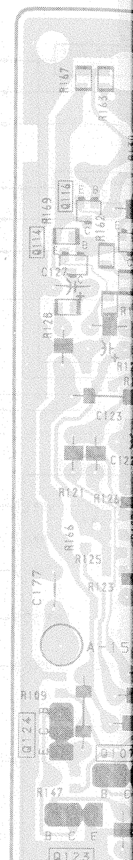
— H2 Board —


D1653
D1652
D1651
D1654
IC1651
H2-2
R1661
R1662
1-638-392-12
SONY
CAD
H2

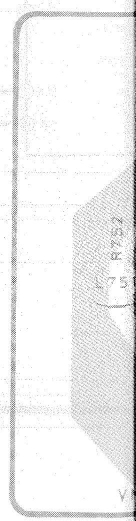
— F Board —


CAD
T4.0A
F1601
AC IN
AC OUT
F-62
S-1701
1-638-390-11
F
SONY

— A Board

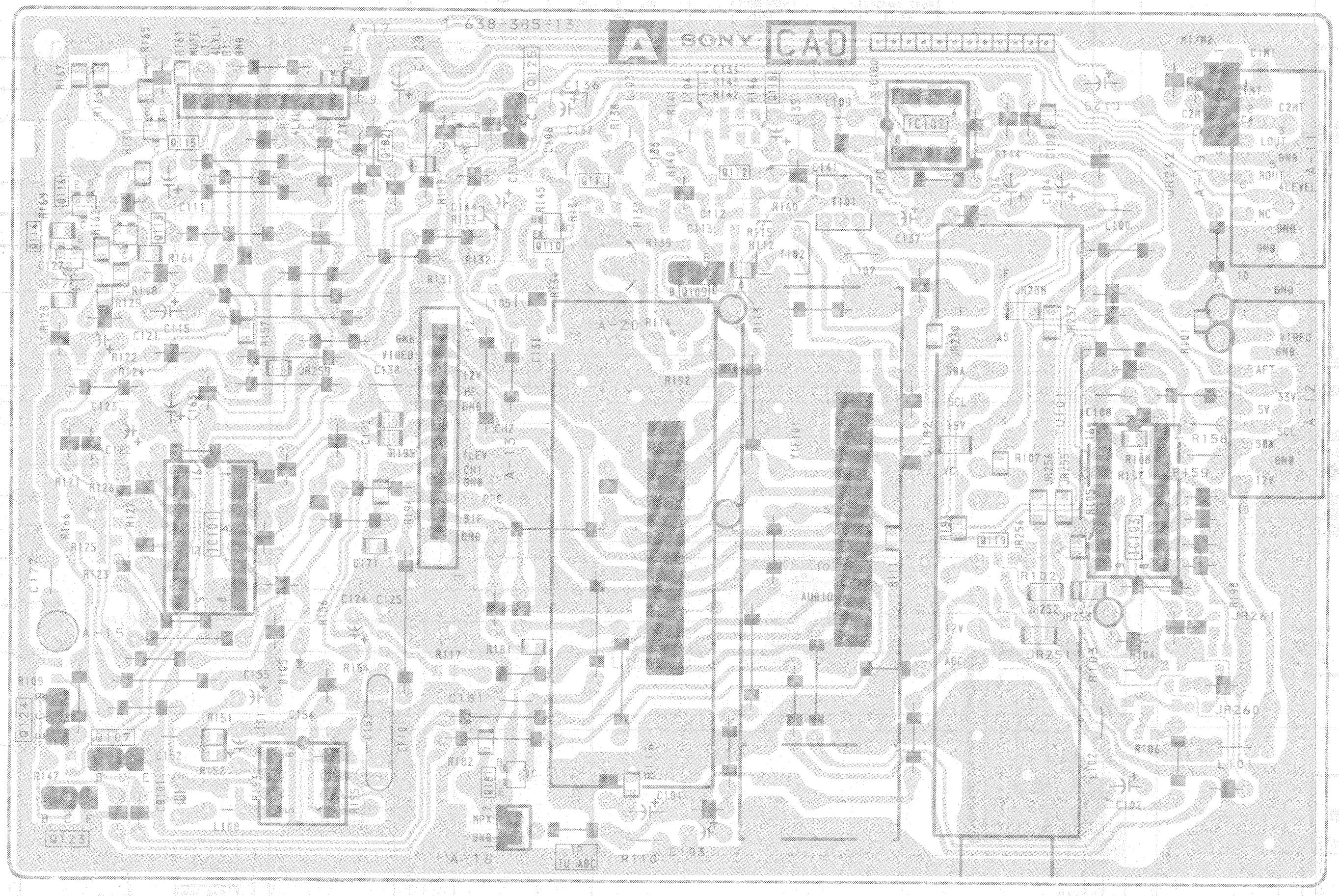


— VM Bo

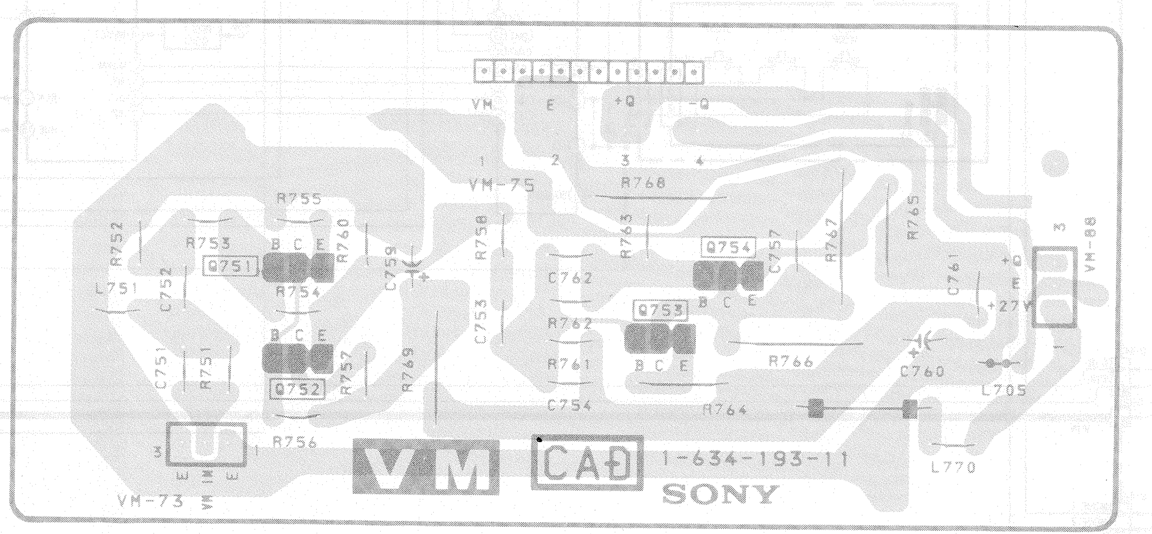


A [TUNER, SIF, VIF] **VM** [VM AMP]

— A Board —

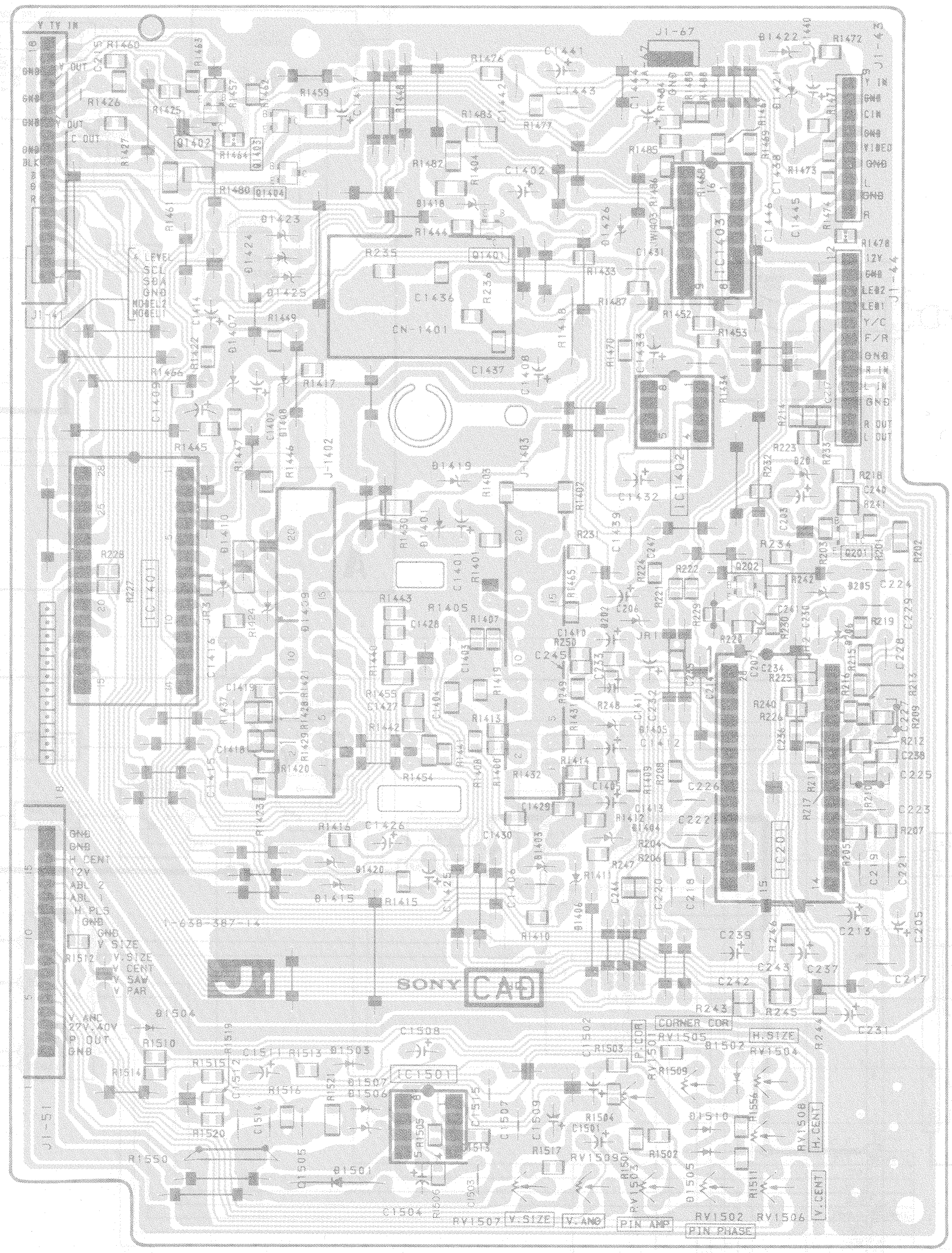

1-638-385-13
A
SONY
CAD
IC101
IC102
IC103
A-17
A-20
A-16
A-15
TU-A9C

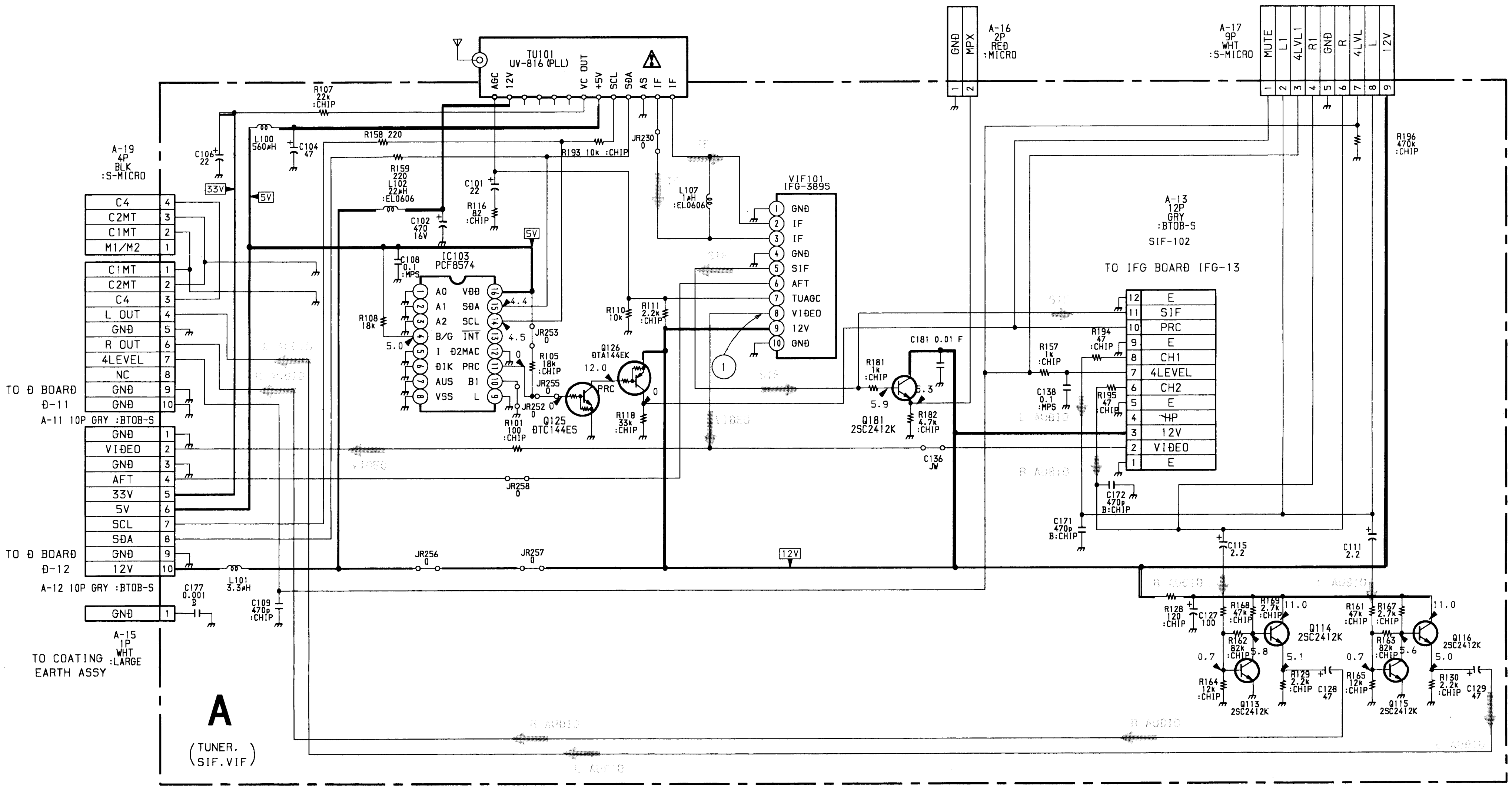
— VM Board — (KV-A2921D ONLY)


VM
E
+Q
-Q
VM-75
VM-88
VM-73
R768
R755
R753
R760
R752
Q751
R754
L751
C752
C759
R758
R763
Q754
C757
R767
R765
C761
C762
Q753
R762
C753
R761
R766
C760
L705
C751
R751
Q752
R757
R769
C754
R764
R756
+27V
VM
CAD
1-634-193-11
SONY
L770

J1 [AUDIO CONTROL, AV INPUT Y/C INPUT, SCART VIDEO OUT, EAST-WEST CORRECTION]

— J1 Board —


J1-67
J1-44
J1-41
J1-51
IC1401
IC1402
IC1403
IC1501
IC201
CN-1401
J-1402
1-638-387-14
J1
SONY
CAD
CORNER COR
H.SIZE
H.CENT
V.CENT
V.SIZE
V.ANG
PIN AMP
PIN PHASE
RV1502
RV1504
RV1505
RV1506
RV1507
RV1508
RV1509

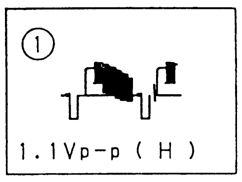

TU101
UV-816 (PLL)
AGC
12V
VC OUT
+5V
SCL
SDA
AS
IF
IF
A-19
4P
BLK
:S-MICRO
C4
C2MT
C1MT
M1/M2
C1MT
C2MT
C4
L OUT
GND
R OUT
4LEVEL
NC
GND
GND
TO D BOARD
D-11
A-11 10P GRY :BTOB-S
GND
VIDEO
GND
AFT
33V
5V
SCL
SDA
GND
12V
TO D BOARD
D-12
A-12 10P GRY :BTOB-S
GND
A-15
1P
WHT
:LARGE
TO COATING
EARTH ASSY
IC103
PCF8574
VIF101
IFG-389S
GND
IF
IF
GND
SIF
AFT
TUAGC
VIDEO
12V
GND
A-13
12P
GRY
:BTOB-S
SIF-102
TO IFG BOARD IFG-13
E
SIF
PRC
E
CH1
4LEVEL
CH2
E
HP
12V
VIDEO
E
A-16
2P
RED
:MICRO
GND
MPX
A-17
9P
WHT
:S-MICRO
MUTE
L1
4LVL1
R1
GND
R
4LVL
L
12V
Q125
DTC144ES
Q126
DTA144EK
Q181
2SC2412K
Q113
2SC2412K
Q114
2SC2412K
Q115
2SC2412K
Q116
2SC2412K
①
A
(TUNER.
SIF.VIF)

B-SS4172<AEP>-A..

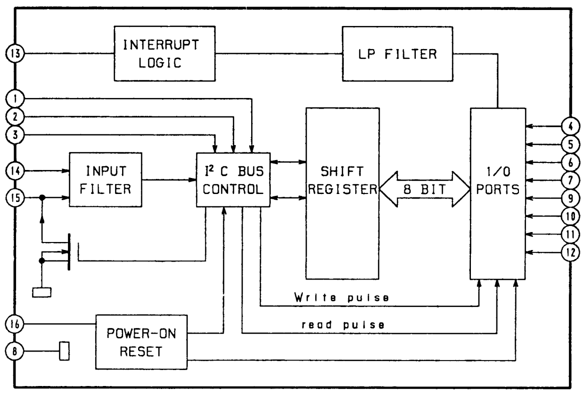
— A Board —

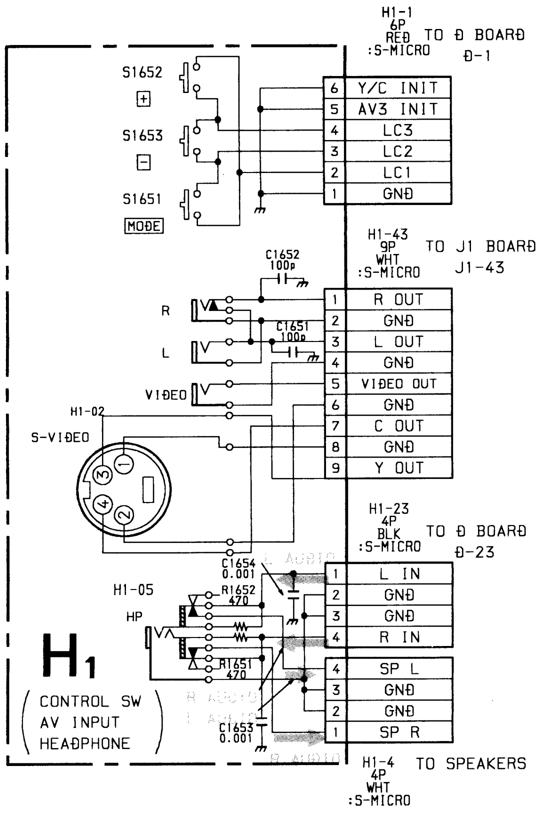
IC103	PCF8574	EXPANDER
Q113	2SC2412K	AUDIO AMP
Q114	2SC2412K	AUDIO AMP
Q115	2SC2412K	AUDIO AMP
Q116	2SC2412K	AUDIO AMP
Q125	DTC144ES	MUTE SW
Q126	DTA144EK	MUTE SW
Q181	2SC2412K	NICAM BUFFER

— A Board —

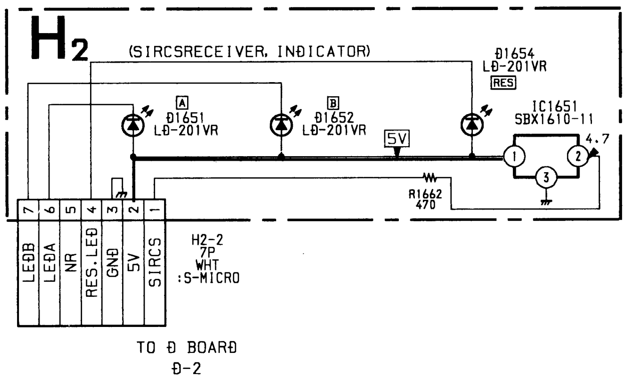


A BOARD IC103 PCF8574


INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8
4
5
6
7
9
10
11
12


H1-1
6P
RED
:S-MICRO
TO D BOARD
D-1
S1652
+
S1653
−
S1651
MODE
Y/C INIT
AV3 INIT
LC3
LC2
LC1
GND
H1-43
9P
WHT
:S-MICRO
TO J1 BOARD
J1-43
R OUT
GND
L OUT
GND
VIDEO OUT
GND
C OUT
GND
Y OUT
R
L
VIDEO
H1-02
S-VIDEO
H1-23
4P
BLK
:S-MICRO
TO D BOARD
D-23
L IN
GND
GND
R IN
H1-05
HP
SP L
GND
GND
SP R
H1-4
4P
WHT
:S-MICRO
TO SPEAKERS
H1
CONTROL SW
AV INPUT
HEADPHONE

B-SS4161<UK.>-H1.


H2
(SIRCSRECEIVER, INDICATOR)
D1651
LD-201VR
A
D1652
LD-201VR
B
D1654
LD-201VR
RES
IC1651
SBX1610-11
5V
R1662
470
LEDB
LEDA
NR
RES.LED
GND
5V
SIRCS
H2-2
7P
WHT
:S-MICRO
TO D BOARD
D-2

B-SS4161<UK.>-H2.

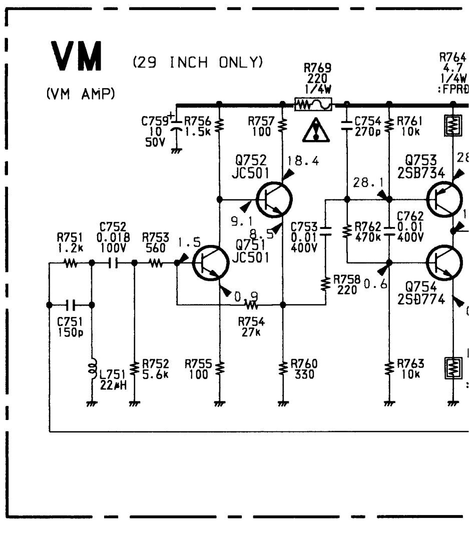
— H2 Board —

IC1651	SBX1610-11	INFRARED RECIVER
D1651	LD-201VR	AUDIO CHANNEL A INDICATOR
D1652	LD-201VR	AUDIO CHANNEL B INDICATOR
D1654	LD-201VR	RESET INDICATOR

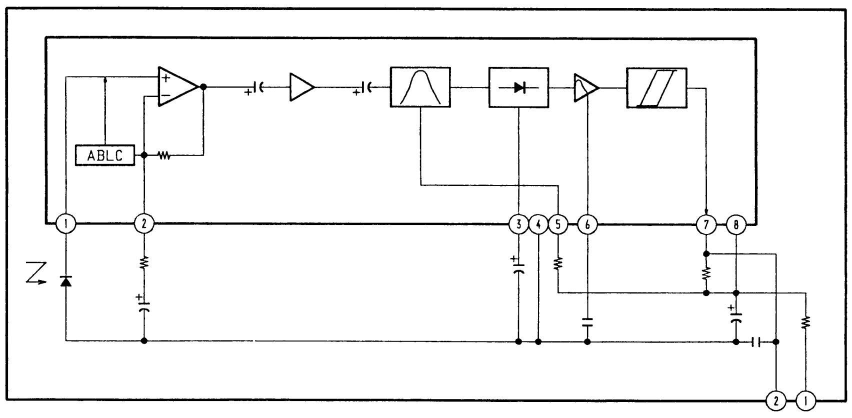
— VM Board — (KV-A2921D ONLY)

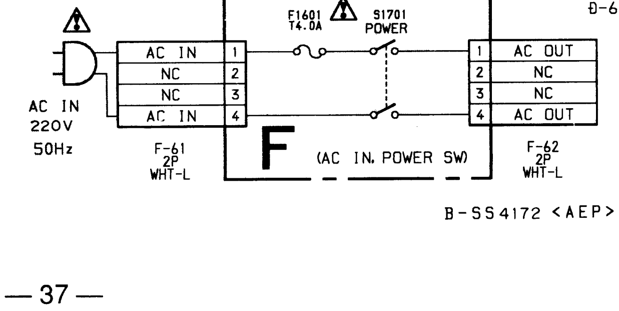
Q751	JC501	REF-AMP
Q752	JC501	REF-AMP
Q753	2SB734	PUSH-PULL
Q754	2SD774	PUSH-PULL

— VM Board — (KV-A2921D ONLY)

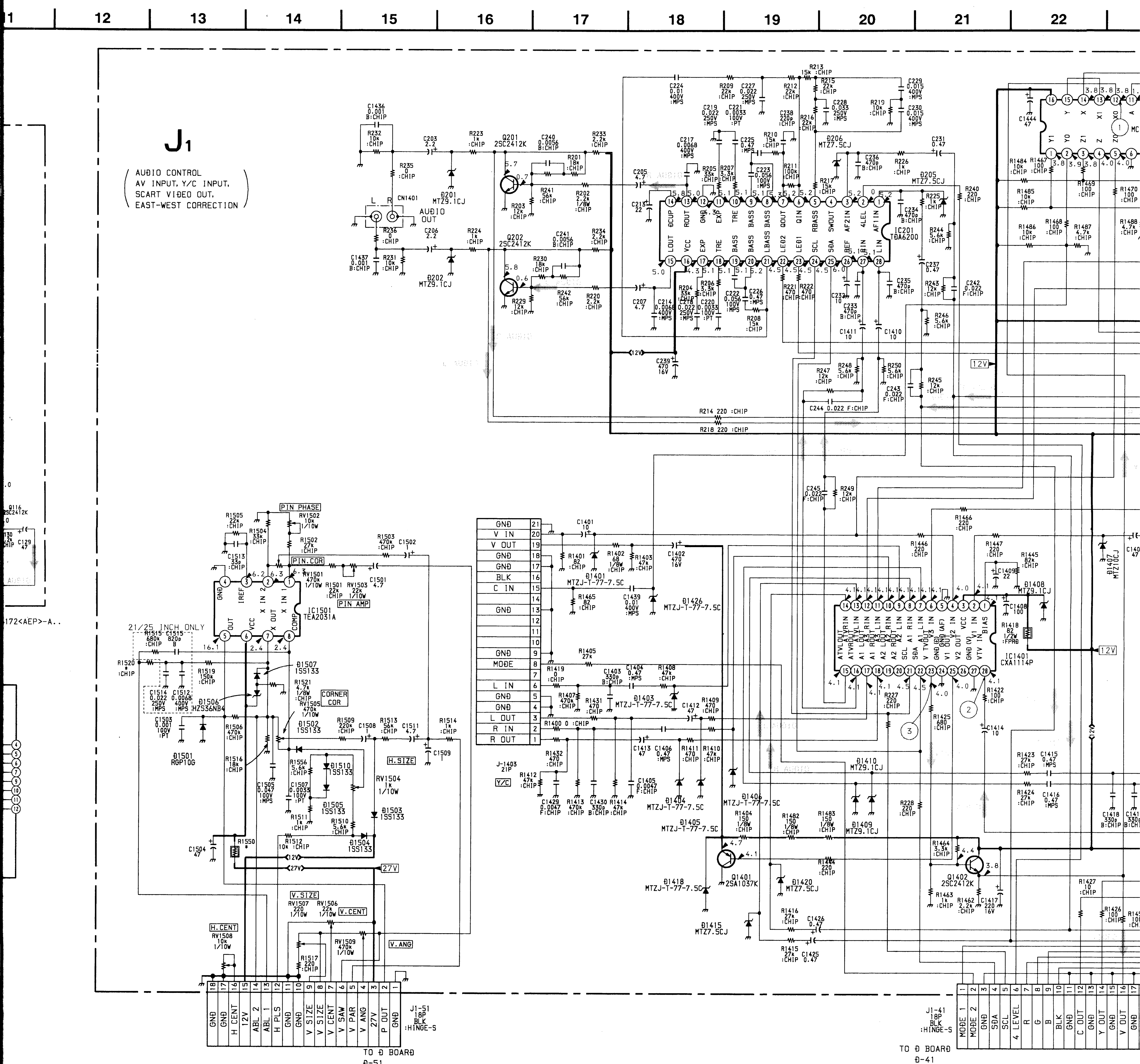

VM
(29 INCH ONLY)
(VM AMP)
Q752
JC501
Q751
JC501
Q753
2SB734
Q754
2SD774

H2 BOARD IC1651 SBX1610-11


ABLC
1
2
3
4
5
6
7
8
2
1


TO D BOARD
D-62
AC IN
220V
50Hz
AC IN
NC
NC
AC IN
F-61
2P
WHT-L
F1601
T4.0A
S1701
POWER
AC OUT
NC
NC
AC OUT
F-62
2P
WHT-L
F
(AC IN, POWER SW)

B-SS4172 <AEP>-F



11
12
13
14
15
16
17
18
19
20
21
22
J1
AUDIO CONTROL
AV INPUT, Y/C INPUT,
SCART VIDEO OUT,
EAST-WEST CORRECTION
IC201 TDA6200
IC1401 CXA1114P
IC1501 TEA2031A
Q201 2SC2412K
Q202 2SC2412K
Q1401 2SA1037K
Q1402 2SC2412K
CN1401
AUDIO OUT
PIN PHASE
PIN.COR
PIN AMP
21/25 INCH ONLY
CORNER COR
H.SIZE
V.SIZE
V.CENT
H.CENT
V.ANG
12V
27V
Y/C
J-1403 21P
GND
V IN
V OUT
BLK
C IN
MODE
L IN
L OUT
R IN
R OUT
J1-51 18P BLK :HINGE-S
TO D BOARD D-51
GND
H CENT
12V
ABL 2
ABL 1
H PLS
V SIZE
V CENT
V SAW
V PAR
V ANG
27V
P OUT
J1-41 18P BLK :HINGE-S
TO D BOARD D-41
MODE 1
MODE 2
SDA
SCL
4 LEVEL
R
G
B
C OUT
Y OUT

ATOR	
ATOR	

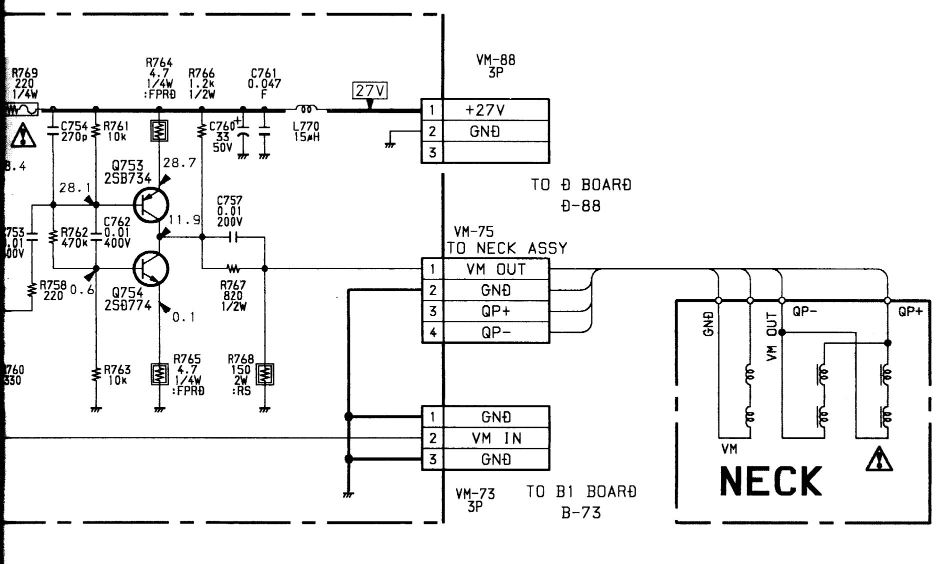
921D ONLY)

	REF-AMP
	REF-AMP
	PUSH-PULL OUT
	PUSH-PULL OUT

21D ONLY)

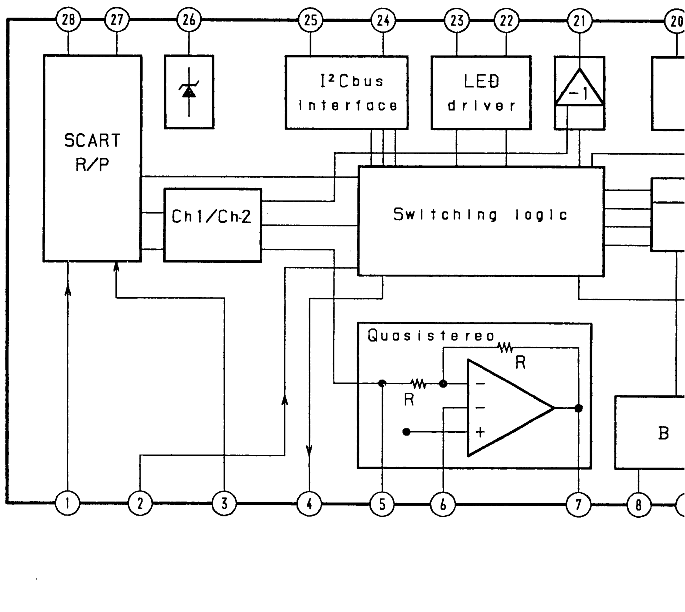
— J1 BOARD * MARK —

	KV-A2121D	KV-A2521D	KV-A2921D
C1512	0.0068 400V	0.0068 400V	——
C1514	0.022 250V	0.022 250V	——
C1515	820P	820P	——
R1515	680K	680K	——
R1520	470K 1/10W	470K 1/10W	390K 1/10W
R1550	JW (15)	JW (15)	1 1W

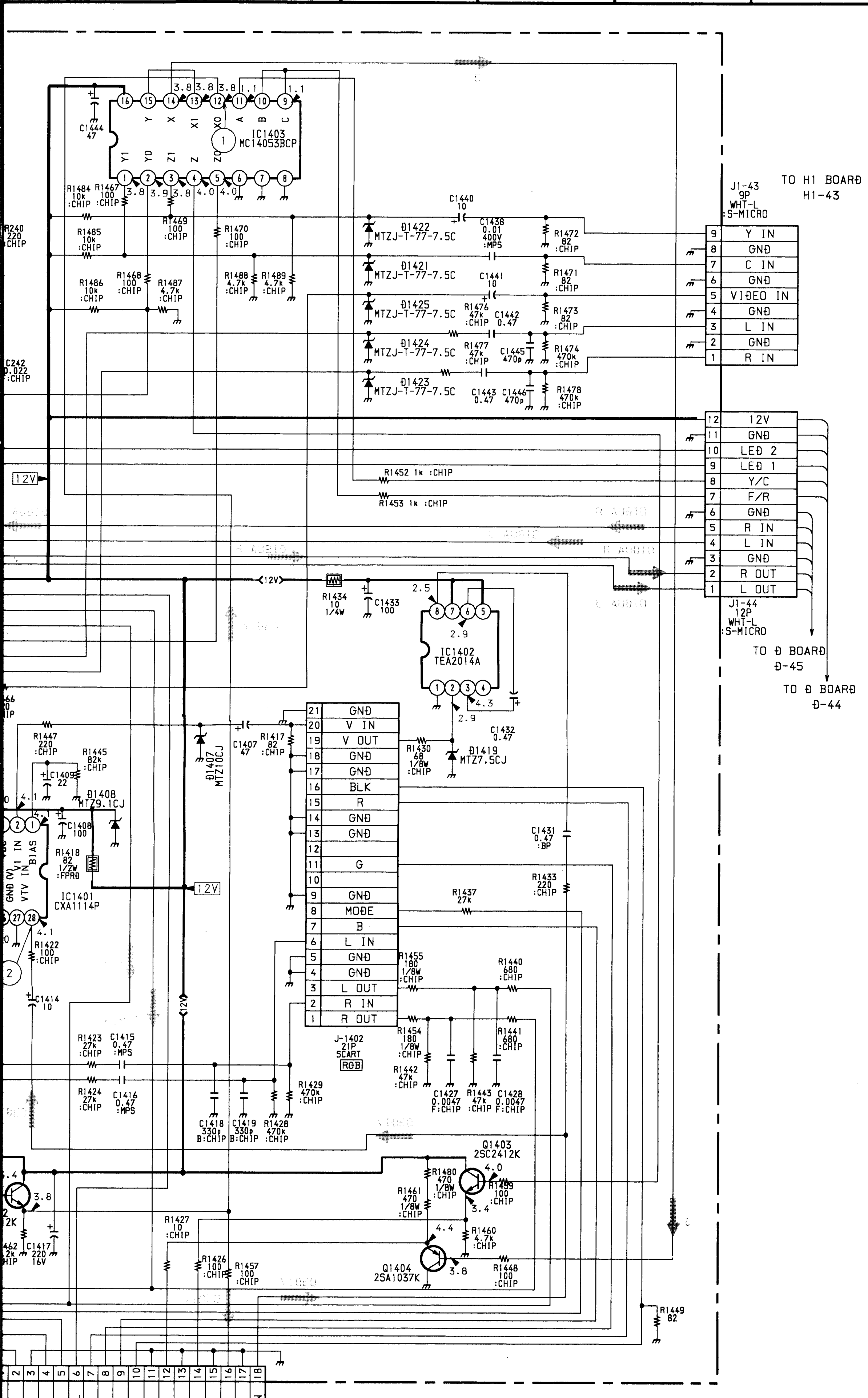


R769 220 1/4W
R764 4.7 1/4W :FPRD
R766 1.2k 1/2W
C761 0.047 F
27V
VM-88 3P
+27V
GND
TO D BOARD D-88
Q753 2SB734
Q754 2SD774
C757 0.01 200V
L770 15µH
VM-75 TO NECK ASSY
VM OUT
QP+
QP-
VM IN
VM-73 3P
TO B1 BOARD B-73
NECK
VM

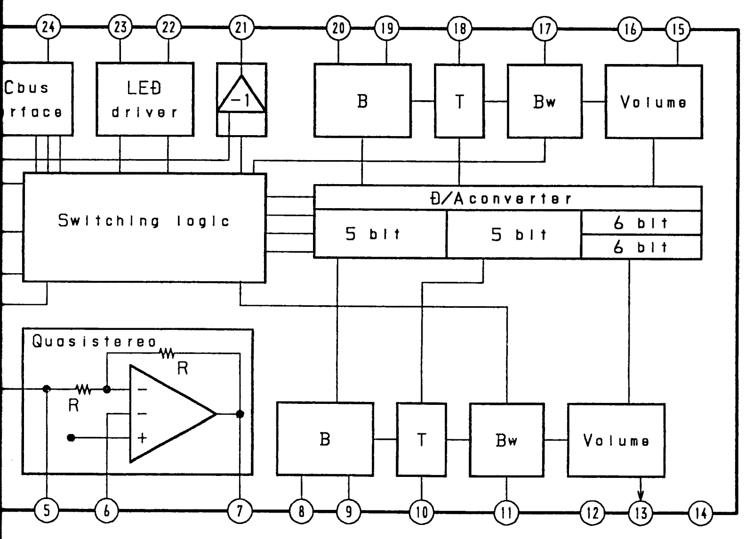
J1 BOARD IC201 TDA6200



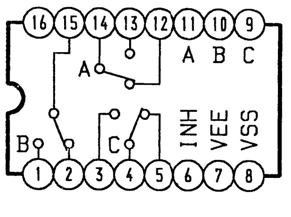
SCART R/P
I²C bus interface
LED driver
Ch1/Ch2
Switching logic
Quasistereo
R
B


IC1403
MC14053BCP
IC1402
TEA2014A
IC1401
CXA1114P
J1-43
9P
WHT-L
:S-MICRO
TO H1 BOARD
H1-43
Y IN
GND
C IN
GND
VIDEO IN
GND
L IN
GND
R IN
12V
GND
LED 2
LED 1
Y/C
F/R
GND
R IN
L IN
GND
R OUT
L OUT
J1-44
12P
WHT-L
:S-MICRO
TO D BOARD
D-45
TO D BOARD
D-44
J-1402
21P
SCART
RGB
GND
V IN
V OUT
GND
GND
BLK
R
GND
GND
G
GND
MODE
B
L IN
GND
GND
L OUT
R IN
R OUT
Q1403
2SC2412K
Q1404
2SA1037K
12V
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C OUT
GND
Y OUT
GND
V OUT
GND
V TV IN

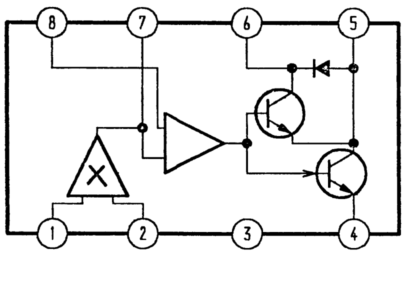
B-SS4161<UK.>-J1.


Cbus
rface
LED
driver
-1
B
T
Bw
Volume
Switching logic
D/Aconverter
5 bit
5 bit
6 bit
6 bit
Quasistereo
R
R
B
T
Bw
Volume

J1 BOARD IC1403 MC14053BCP


A B C
A
B
C
INH
VEE
VSS

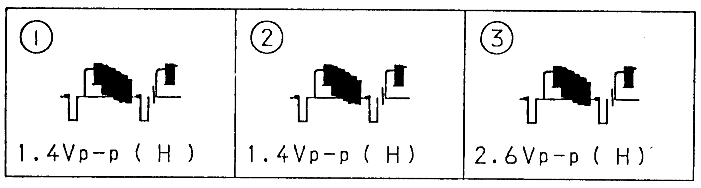
J1 BOARD IC1501 TEA2031A



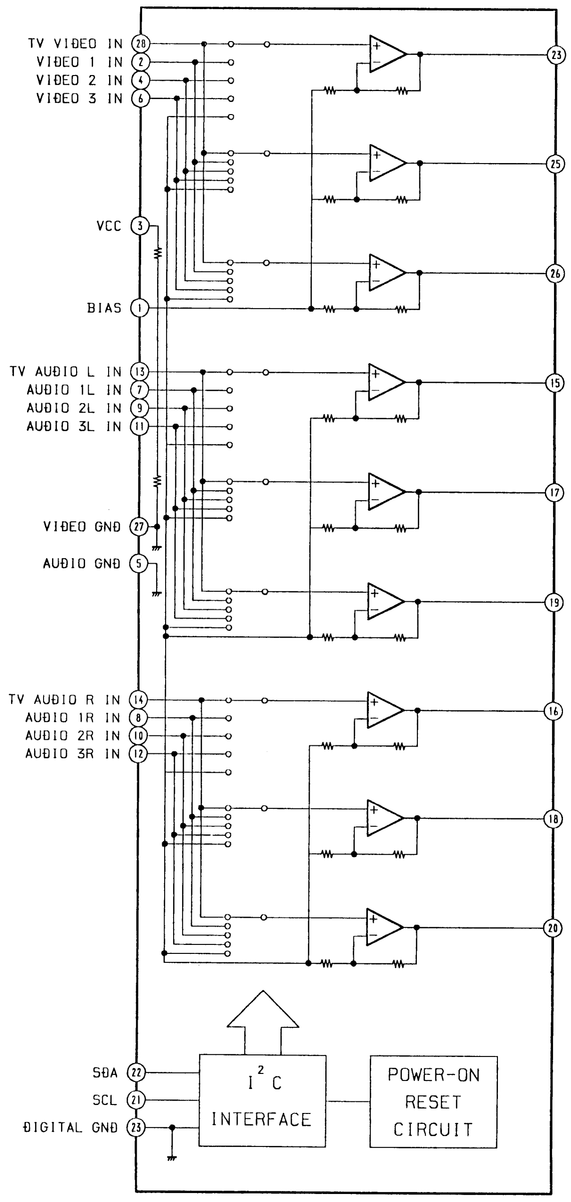
— J1 Board —

IC201	TDA6200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q201	2SC2412K	AUDIO R BUFF
Q202	2SC2412K	AUDIO L BUFF
Q1401	2SA1037K	VIDEO OUT
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	2SC2412K	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
D201	MTZJ-T-77-9.1C	PROTECT
D202	MTZJ-T-77-9.1C	PROTECT
D205	MTZJ-T-77-7.5C	PROTECT
D206	MTZJ-T-77-7.5C	PROTECT
D1401	MTZJ-T-77-7.5C	PROTECT
D1403	MTZJ-T-77-7.5C	PROTECT
D1404	MTZJ-T-77-7.5C	PROTECT
D1405	MTZJ-T-77-7.5C	PROTECT
D1406	MTZJ-T-77-7.5C	PROTECT
D1407	MTZN-T-77-10C	PROTECT
D1408	MTZJ-T-77-9.1C	REG
D1409	MTZJ-T-77-9.1C	PROTECT
D1410	MTZJ-T-77-9.1C	PROTECT
D1415	MTZJ-T-77-7.5C	PROTECT
D1418	MTZJ-T-77-7.5C	PROTECT
D1419	MTZJ-T-77-7.5C	PROTECT
D1420	MTZJ-T-77-7.5C	PROTECT
D1421	MTZJ-T-77-7.5C	PROTECT
D1422	MTZJ-T-77-7.5C	PROTECT
D1423	MTZJ-T-77-7.5C	PROTECT
D1424	MTZJ-T-77-7.5C	PROTECT
D1425	MTZJ-T-77-7.5C	PROTECT
D1426	MTZJ-T-77-7.5C	PROTECT
D1501	RGP10GPKG23	PROTECT
D1502	1SS133	DECOUPLING H SIZE
D1503	1SS133	CLIPPING V PARABORA
D1504	1SS133	CLIPPING H PULSE
D1505	1SS133	REG
D1506	HZS36NB4TD	PROTECT
D1507	1SS133	PROTECT
D1510	1SS133	REG

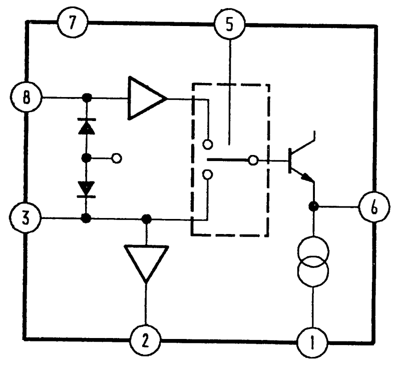
— J1 Board —



J1 BOARD IC1401 CXA1114P


TV VIDEO IN ⑳
VIDEO 1 IN ②
VIDEO 2 IN ④
VIDEO 3 IN ⑥
VCC ③
BIAS ①
TV AUDIO L IN ⑬
AUDIO 1L IN ⑦
AUDIO 2L IN ⑨
AUDIO 3L IN ⑪
VIDEO GND ㉗
AUDIO GND ⑤
TV AUDIO R IN ⑭
AUDIO 1R IN ⑧
AUDIO 2R IN ⑩
AUDIO 3R IN ⑫
SDA ㉒
SCL ㉑
DIGITAL GND ㉓
㉓ TV VIDEO OUT
㉕ VIDEO 1 OUT
㉖ VIDEO 2 OUT
⑮ TV AUDIO L OUT
⑰ AUDIO 1L OUT
⑲ AUDIO 2L OUT
⑯ TV AUDIO R OUT
⑱ AUDIO 1R OUT
⑳ AUDIO 2R OUT
I²C
INTERFACE
POWER-ON
RESET
CIRCUIT

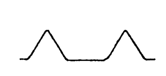
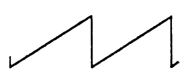
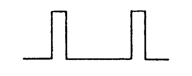
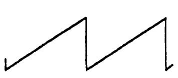
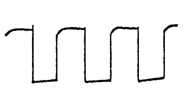
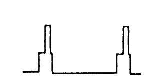
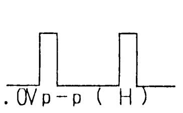
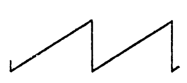
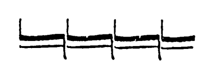
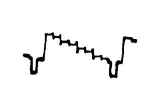
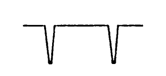
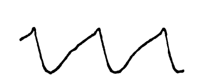
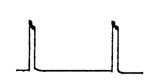
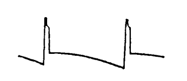
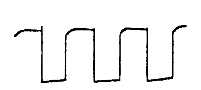
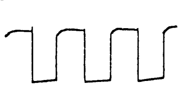
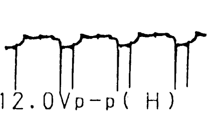
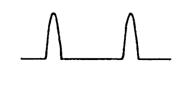
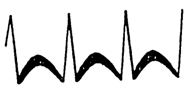
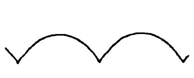
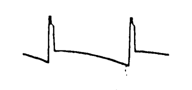
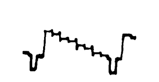
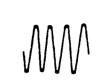
J1 BOARD IC1402 TEA2014A



— D BOARD * MARK —

	KV-A2121D	KV-A2521D	KV-A2921D
C519	0.47	0.47	0.33
C526	27P	27P	22P
C536	4.7 16V	10 16V	10 16V
C617	220 25V	100 50V	100 50V
C620	1 63V	0.47 50V	0.47 50V
C811	1 200V	2 200V	2 200V
C815	1 200V	1 200V	0.82 200V
C817	0.0106 1.4KV	0.015 1.4KV	0.017 1.4KV
C821	680P 2KV	680P 2KV	470P 2KV
R525	1K 1/10W	1K 1/10W	——
R531	——	120K 1/10W	120K 1/10W
R532	——	——	——
R533	180 1/10W	0 1/10W	0 1/10W
R535	4.7M 1/4W	2.2M 1/4W	2.2M 1/4W
R545	39K 1/10W	22K 1/10W	22K 1/10W
R547	5.6K 1/10W	3.3K 1/10W	3.3K 1/10W
R548	1.2 1W	1 1W	1 1W
R549	470 2W	390 2W	390 2W
R552	1.2K 1W	——	——
R561	——	——	270K 1/10W
R570	——	——	680 1/10W
R600	——	1 1/4W	1 1/4W
R603	15 3W	12 3W	12 3W
R607	4.7K 1/10W	4.7K 1/10W	5.6K 1/10W
R631	27K 2W	27K 2W	——
R643	0.15 2W	0.12 2W	0.12 2W
R811	100 1W	22 2W	22 2W
R812	75K 1/2W	68K 1/2W	51K 1/2W
R825	1 1W	0.47 1W	0.47 1W
R5503	4.7 1/10W	4.7 1/10W	10 1/10W
R5506	——	——	12K 1/10W
JW202	——	——	5MM
JW203	5MM	5MM	——
JW204	5MM	5MM	——
JW205	——	——	5MM
JW206	5MM	5MM	——
JW207	5MM	5MM	——
JW216	15MM	15MM	——
JW229	10MM	10MM	——
L801	——	——	3.9MH
D88	——	——	3P CONNECTOR
D271	MTZJ12C	MTZJ13B	MTZJ13B
D506	DA204K	DA204K	——
D509	——	1SS133	1SS133
D514	JW (5)	JW (5)	1SS133
D515	——	——	1SS133
D807	——	ERC06-15S	ERC06-15S
D808	ERD28-08S	ERD29-08J	ERD29-08J

— D Board —

①  1.4Vp-p (H)	②  3.0Vp-p (V)	③  5.0Vp-p (V)
④  3.0Vp-p (V)	⑤  4.4 Vp-p (H)	⑥  11.0Vp-p (H)
⑦  15.0Vp-p (H)	⑧  3.6Vp-p (H)	⑨  0.8Vp-p(503KMz)
⑩  1.4Vp-p (H)	⑪  0.8Vp-p (V)	⑫  2.2Vp-p (V)
⑬  32.0 Vp-p(V)	⑭  28.0Vp-p(V)	⑮  3.6Vp-p (H)
⑯  250Vp-p (H)	⑰  12.0Vp-p(H)	⑱  1400Vp-p(H)
⑲  220Vp-p (H)	⑳  7.0Vp-p (V)	㉑  54.0Vp-p (V)
㉒  1.4Vp-p (H)	㉓  4.4 Vp-p(12MHz)	

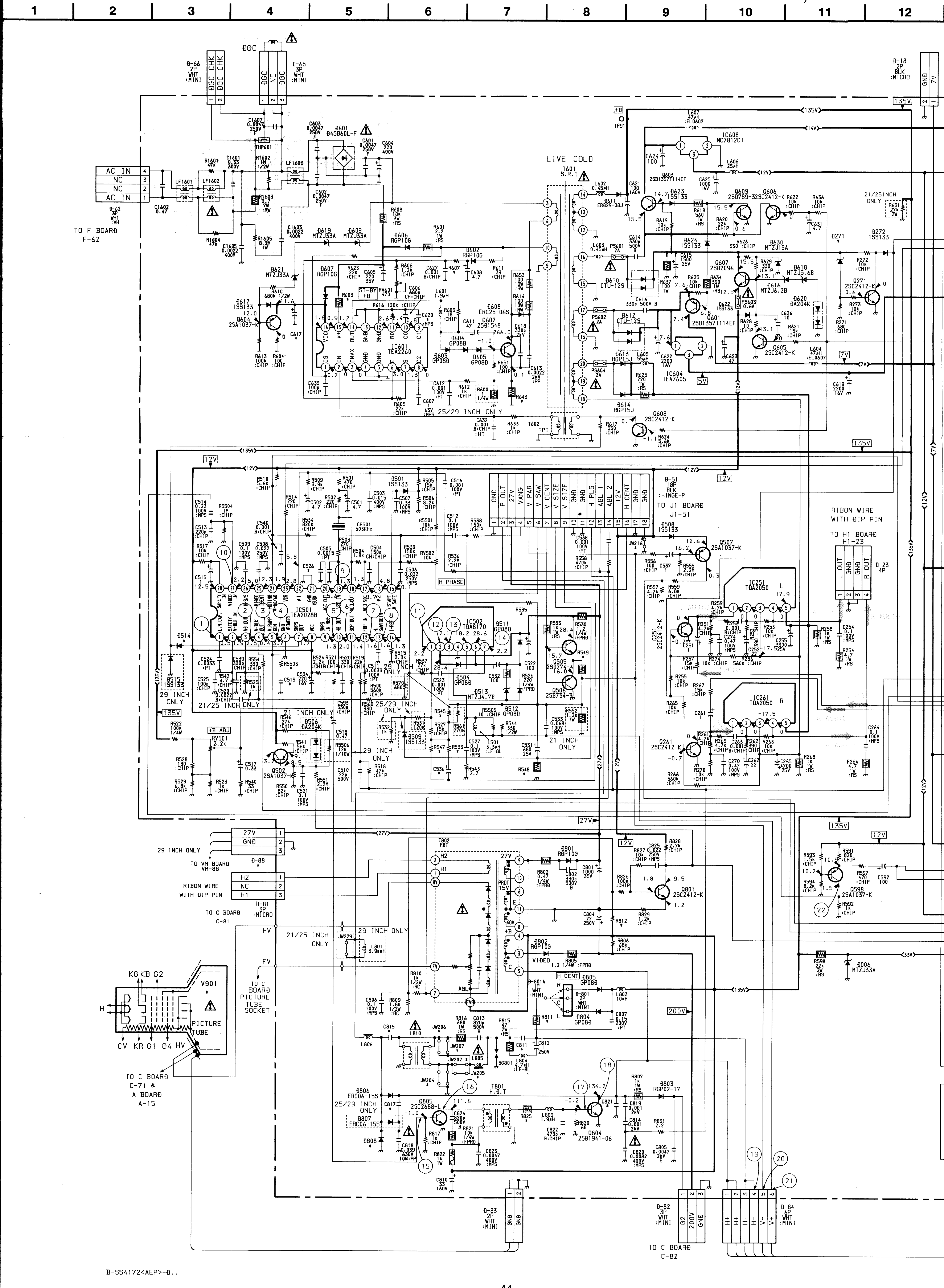
— D Board —

IC001	SDA20560-A012	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT COMPARATOR
IC005	SDA2546	MY MEMORY
IC251	TDA2050	AUDIO OUT (L)
IC261	TDA2050	AUDIO OUT (R)
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	TDA8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	MC7812CT	+12V REG
Q001	DTC144EK	50/60Hz SW
Q002	DTC144EK	BLK SW
Q003	2SA1037K	SYNC SEPARATOR
Q004	2SA1037K	SYNC SEPARATOR
Q005	DTC144EK	Y/C SW
Q006	DTC144EK	FRONT/REAR SW
Q007	2SC2412K	MODE 2 SWITCH
Q008	2SC2412K	MODE 1 SWITCH
Q009	2SC2412K	MUTE SW
Q010	2SC2412K	RESET
Q251	2SC2412K	AUDIO MUTE
Q261	2SC2412K	AUDIO MUTE
Q271	2SC2412K	VOLTAGE DETECT
Q502	2SA1037K	CONSTANT CURRENT SOURCE
Q505	2SD774	V CENT
Q506	2SB734	V CENT
Q507	2SA1037K	CANAL +BLK
Q598	2SA1037K	VIDEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	2SD1548	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037K	FAST ON/OFF
Q605	2SC2412K	STBY SW
Q606	2SC2412K	STBY SW
Q607	2SD2096-EF	+12V REG
Q608	2SC2412K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412K	ABL AMP
Q804	2SD1941	H OUT
Q805	2SC2688	H DRIVER

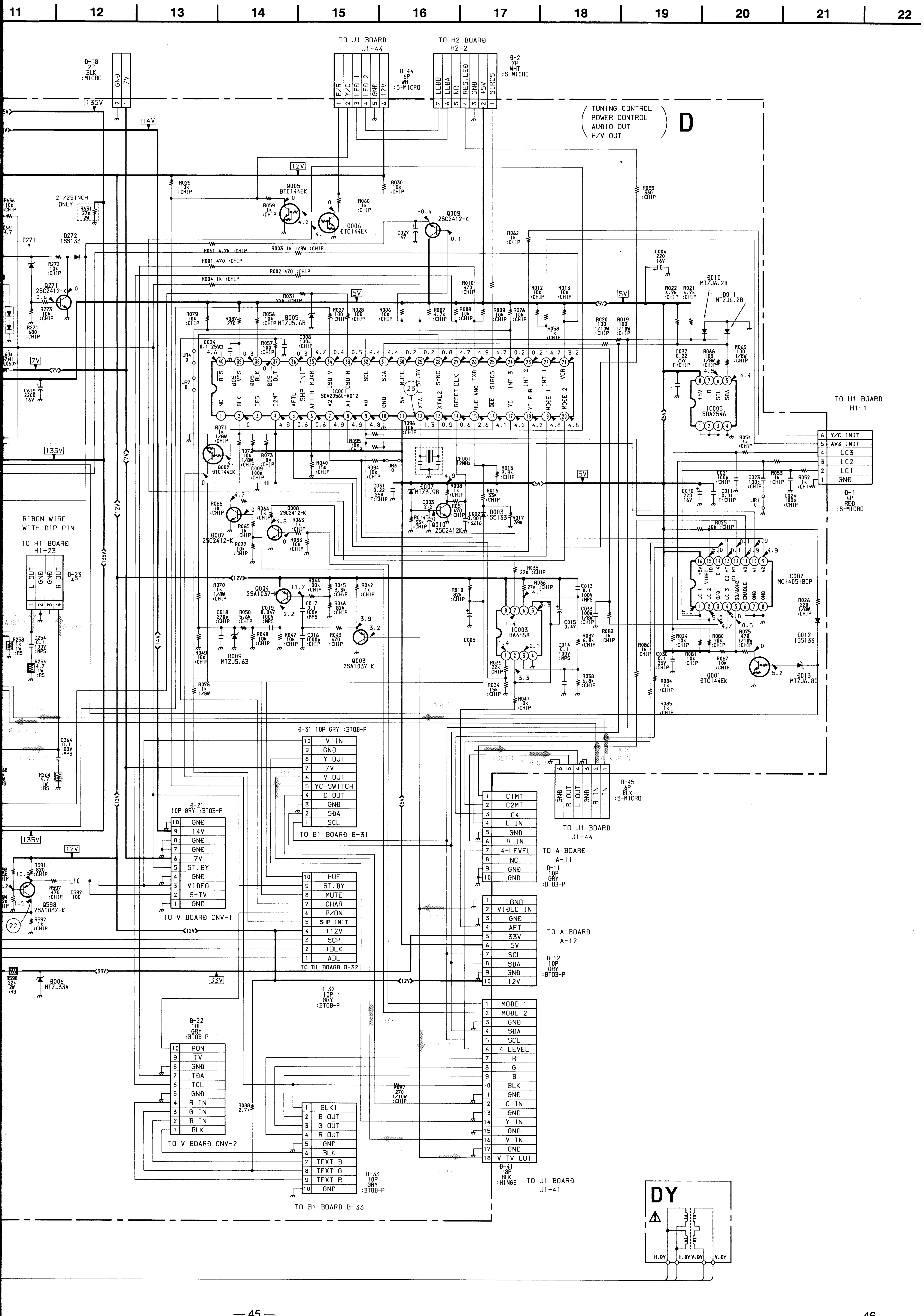
D001	MTZJ6.8C	PROTECT
D002	MTZJ6.8C	PROTECT
D003	1SS133	HUE CTL
D005	MTZJ5.6B	PROTECT
D006	MTZJ33A	VC VOLTAGE REGULATION
D007	MTZJ3.9B	PROTECT RESET
D009	MTZJ5.6B	CLIPPING SYNC LEVEL
D010	MTZJ6.2B	PROTECT
D011	MTZJ6.2B	PROTECT
D012	1SS133	PROTECT
D013	MTZJ6.8C	PROTECT
D271	RD12ES-B2	VOLTAGE DETECT (21 INCH ONLY)
D271	MTZJ13B	VOLTAGE DETECT (25/29 INCH ONLY)
D272	1SS133	DECOUPING MUTE AUDIO
D501	1SS133	SOFT START
D504	GP08DPKG23	V PULSE OUT
D506	DA204K	CURRENT REG (21/25 INCH ONLY)
D508	1SS133	CANAL +BLK LEVEL
D509	1SS133T-77	V LIN (25/29 INCH ONLY)
D511	GP08DPKG23	PROTECT
D512	GP08DPKG23	PROTECT
D513	MTZJ4.7B	PROTECT
D514	1SS133T-77	PROTECT (29 INCH ONLY)
D515	1SS133T-77	PROTECT (29 INCH ONLY)
D601	D4SB60L-F	AC RECT
D602	RGP10GPKG23	REF RECT
D603	GP08DPKG23	SMPS DRIVE 1
D604	GP08DPKG23	SMPS DRIVE 2
D605	GP08DPKG23	SMPS DRIVE 3
D606	RGP10GPKG23	+12V RECT
D607	RGP10GPKG23	REF RECT
D608	ERC25-06S	PLUSE CLIPPER
D609	MTZJ33A	FAST ON/OFF
D610	CTU-12S	+14V RECT
D611	ERD29-08J	+135V RECT
D612	CTU-12S	+7V RECT
D613	RGP15J-6040G23	AF V RECT-1
D614	RGP15J-6040G23	AF V RECT-2
D616	MTZJ6.2B	+12V REG
D617	1SS133	PROTECT
D618	MTZJ5.6B	+12V REF
D619	MTZJ33A	FAST ON/OFF-2
D620	DA204K	+12V REF
D621	MTZJ33A	FAST ON/OFF-3
D622	1SS133	PROTECT
D623	1SS133	DECOUPING STBY
D624	1SS133	DECOUPING DTBY
D630	MTZJ15A	+12V RECT
D801	RGP10GPKG23	+27V RECT
D802	RGP10GPKG23	+200V RECT
D803	RGP02-17PKG23	G2 RECT
D804	GP08DPKG23	H CENTER-1
D805	GP08DPKG23	H CENTER-2
D806	ERC06-15S	H DAMPER-1
D807	ERC06-15S	H DAMPER-2 (25/29 INCH ONLY)
D808	ERD28-08S	PIN DAMPER (21 INCH ONLY)
D808	ERD29-08S	PIN DAMPER (25/29 INCH ONLY)

— PICTURE TUBE * MARK —

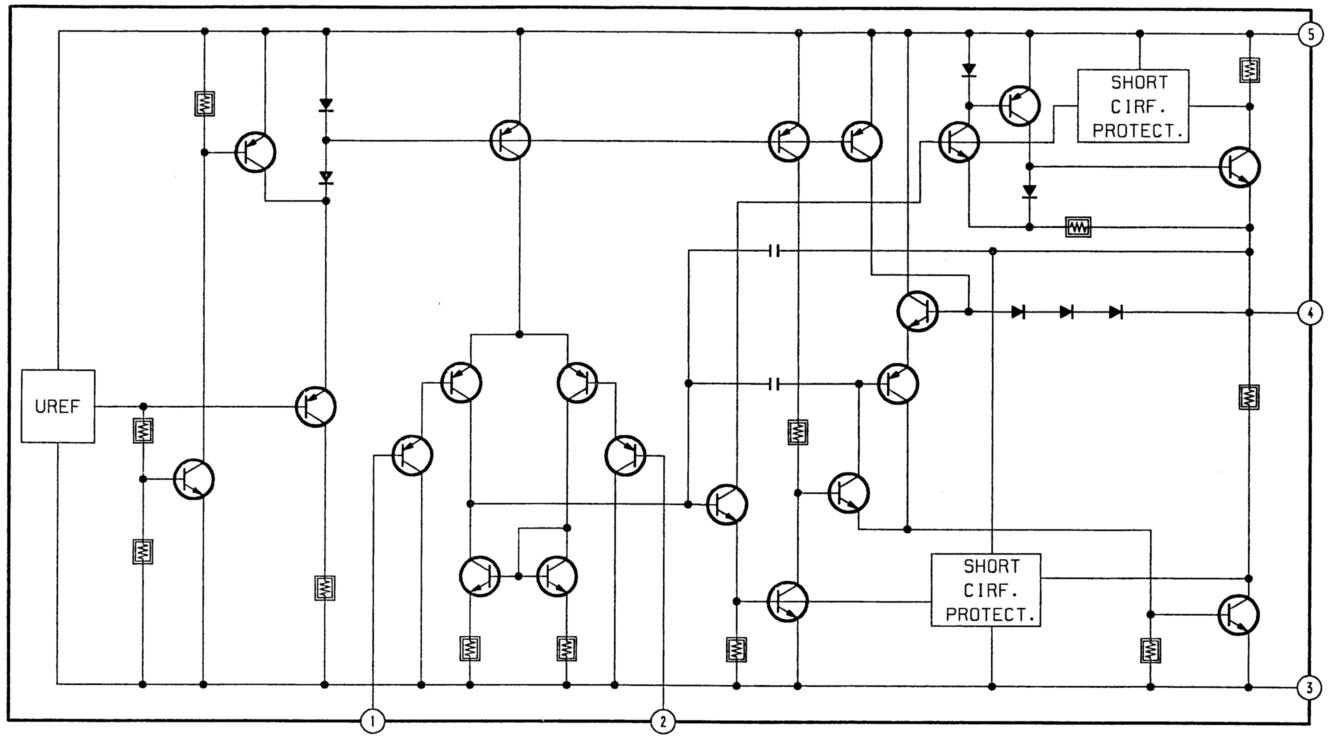
	KV-A2121D	KV-A2521D	KV-A2921D
V901	A51JXH61X	A59JWC61X	A68JYL61X


1
2
3
4
5
6
7
8
9
10
11
12
DGC
D-66 2P WHT :MINI
D-65 3P WHT :MINI
DGC CHK
DGC CHK
DGC
NC
DGC
AC IN
NC
NC
AC IN
D-62 3P WHT :VH
TO F BOARD F-62
LF1601
LF1602
LF1603
THP601
D601 D4SB60L-F
LIVE COLD
T601 S.R.T
IC608 MC7812CT
IC601 TEA2260
IC604 TEA7605
Q603 2SB1357T114EF
Q609 2SD789-32
Q606 2SC2412-K
Q607 2SD2096
Q601 2SB1357T114EF
Q605 2SC2412-K
Q604 2SA1037-K
Q602 2SD1548
Q608 2SC2412-K
Q271 2SC2412-K
D610 CTU-12S
D612 CTU-12S
T602 TPT
21/25INCH ONLY
25/29 INCH ONLY
D-18 2P BLK :MICRO
GND
7V
135V
12V
14V
5V
7V
27V
33V
200V
ST-BY +B
IC501 TEA2028B
IC502 TDA8170
IC251 TDA2050 L
IC261 TDA2050 R
CF501 503kHz
H PHASE
+B ADJ
RV501
Q502 2SA1037-K
Q505 2SD774
Q506 2SB734
Q507 2SA1037-K
Q251 2SC2412-K
Q261 2SC2412-K
29 INCH ONLY
21/25 INCH ONLY
21 INCH ONLY
25/29 INCH ONLY
GND
P OUT
27V
VANG
V PAR
V SAW
V CENT
V SIZE
GND
H PLS
ABL 1
ABL 2
12V
H CENT
GND
GND
D-51 18P BLK :HINGE-P
TO J1 BOARD J1-51
RIBON WIRE WITH DIP PIN
TO H1 BOARD H1-23
L OUT
GND
GND
R OUT
D-23 4P
29 INCH ONLY
27V
GND
TO VM BOARD VM-88
D-88
RIBON WIRE WITH DIP PIN
H2
NC
H1
TO C BOARD C-81
D-81 3P :MICRO
HV
FV
TO C BOARD PICTURE TUBE SOCKET
21/25 INCH ONLY
29 INCH ONLY
T802 FBT
PROT 15V
H CENT
VIDEO
ABL
KG KB G2
V901
PICTURE TUBE
CV KR G1 G4 HV
TO C BOARD C-71 & A BOARD A-15
Q801 2SC2412-K
Q805 2SC2688-L
Q804 2SD1941-06
Q598 2SA1037-K
T801 H.O.T
D806 ERC06-15S
D807 ERC06-15S
25/29 INCH ONLY
D-801A 1P WHT :MINI
D-801 3P WHT :MINI
D-83 2P WHT :MINI
GND
GND
D-82 3P WHT :MINI
G2
200V
GND
TO C BOARD C-82
D-84 6P WHT :MINI
H+
H+
H-
H-
V-
V+

B-SS4172<AEP>-D..

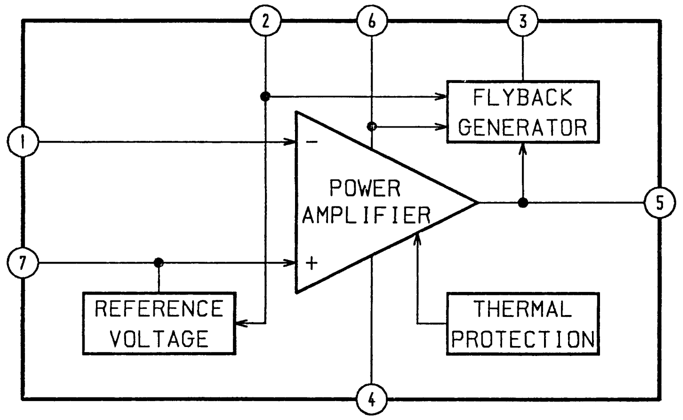

11
12
13
14
15
16
17
18
19
20
21
22
TUNING CONTROL
POWER CONTROL
AUDIO OUT
H/V OUT
D
TO J1 BOARD J1-44
TO H2 BOARD H2-2
D-18 2P BLK :MICRO
D-44 6P WHT :S-MICRO
D-2 7P WHT :S-MICRO
F/R
Y/C
LED 1
LED 2
GND
12V
LEDB
LEDA
NR
RES.LED
GND
+5V
SIRCS
7V
135V
14V
12V
5V
33V
21/25INCH ONLY
IC001 SDA20560-A012
IC002 MC14051BCP
IC003 BA4558
IC005 SDA2546
Q001 DTC144EK
Q002 DTC144EK
Q003 2SA1037-K
Q004 2SA1037-K
Q005 DTC144EK
Q006 DTC144EK
Q007 2SC2412-K
Q008 2SC2412-K
Q009 2SC2412-K
Q010 2SC2412K
Q271 2SC2412-K
Q598 2SA1037-K
D003 1SS133
D005 MTZJ5.6B
D006 MTZJ33A
D007 MTZ3.9B
D009 MTZJ5.6B
D010 MTZJ6.2B
D011 MTZJ6.2B
D012 1SS133
D013 MTZJ6.8C
D271
D272 1SS133
CF001 12MHz
RIBON WIRE WITH DIP PIN
TO H1 BOARD H1-23
L OUT
GND
GND
R OUT
D-23 4P
TO H1 BOARD H1-1
Y/C INIT
AV3 INIT
LC3
LC2
LC1
GND
D-1 6P RED :S-MICRO
D-31 10P GRY :BTOB-P
V IN
GND
Y OUT
7V
V OUT
YC-SWITCH
C OUT
GND
SDA
SCL
TO B1 BOARD B-31
D-21 10P GRY :BTOB-P
GND
14V
GND
GND
7V
ST.BY
GND
VIDEO
S-TV
GND
TO V BOARD CNV-1
HUE
ST.BY
MUTE
CHAR
P/ON
SHP INIT
+12V
SCP
+BLK
ABL
TO B1 BOARD B-32
D-32 10P GRY :BTOB-P
D-45 6P BLK :S-MICRO
GND
R OUT
L OUT
GND
R IN
L IN
TO J1 BOARD J1-44
C1MT
C2MT
C4
L IN
GND
R IN
4-LEVEL
NC
GND
GND
TO A BOARD A-11
D-11 10P GRY :BTOB-P
GND
VIDEO IN
GND
AFT
33V
5V
SCL
SDA
GND
12V
TO A BOARD A-12
D-12 10P GRY :BTOB-P
D-22 10P GRY :BTOB-P
PON
TV
GND
TDA
TCL
GND
R IN
G IN
B IN
BLK
TO V BOARD CNV-2
BLK1
B OUT
G OUT
R OUT
GND
BLK
TEXT B
TEXT G
TEXT R
GND
D-33 10P GRY :BTOB-P
TO B1 BOARD B-33
MODE 1
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C IN
GND
Y IN
GND
V IN
GND
V TV OUT
D-41 18P BLK :HINGE
TO J1 BOARD J1-41
DY
H.DY
H.DY
V.DY
V.DY
22
23

D BOARD IC251/261 TDA2050

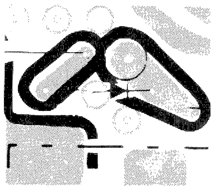


⑤
SHORT CIRF. PROTECT.
④
UREF
SHORT CIRF. PROTECT.
③
①
②

D BOARD IC502 TDA8170



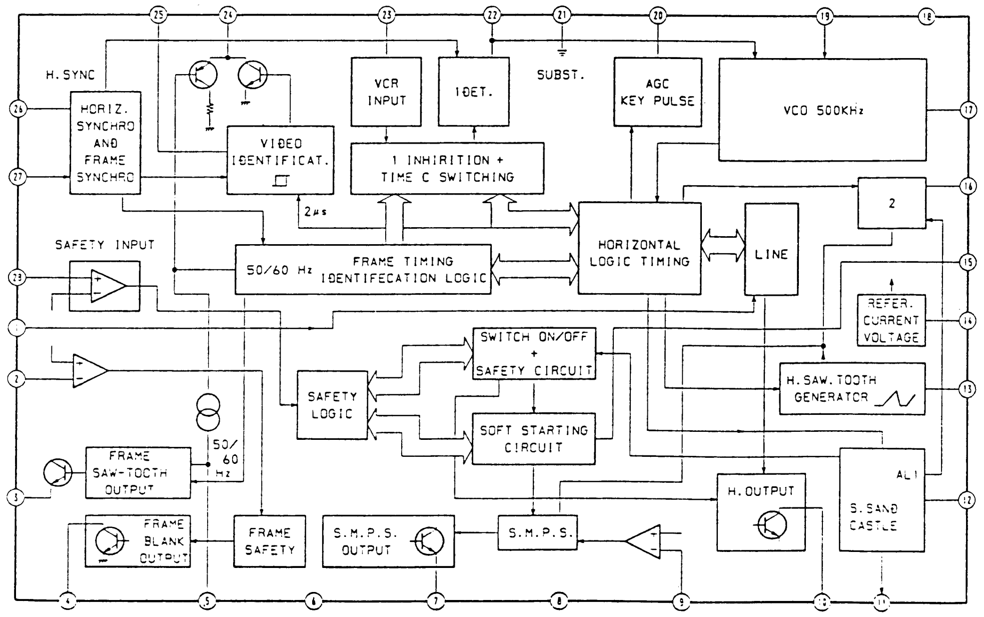
②
⑥
③
FLYBACK GENERATOR
①
−
POWER AMPLIFIER
⑤
⑦
+
REFERENCE VOLTAGE
THERMAL PROTECTION
④



NOTE:

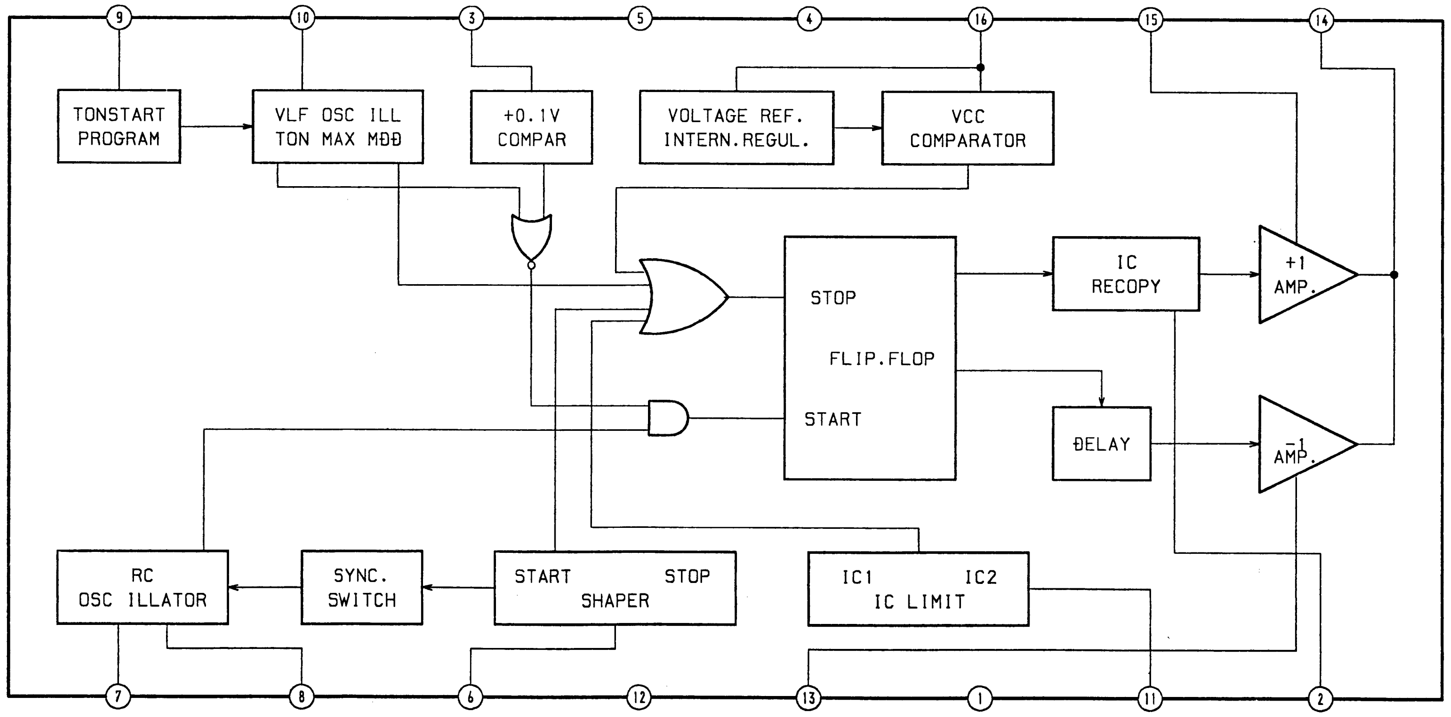
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

D BOARD IC501 TEA2028B



㉕
㉔
㉓
㉒
㉑
⑳
⑲
⑱
H. SYNC
㉖
HORIZ. SYNCHRO AND FRAME SYNCHRO
㉗
VIDEO IDENTIFICAT.
VCR INPUT
IDET.
SUBST.
AGC KEY PULSE
VCO 500KHz
⑰
1 INHIRITION + TIME C SWITCHING
2µs
2
⑯
SAFETY INPUT
㉓
50/60 Hz FRAME TIMING IDENTIFECATION LOGIC
HORIZONTAL LOGIC TIMING
LINE
⑮
REFER. CURRENT VOLTAGE
⑭
①
SWITCH ON/OFF + SAFETY CIRCUIT
②
SAFETY LOGIC
H. SAW. TOOTH GENERATOR
⑬
SOFT STARTING CIRCUIT
50/60 Hz
FRAME SAW-TOOTH OUTPUT
AL1
③
H. OUTPUT
S. SAND CASTLE
⑫
FRAME BLANK OUTPUT
FRAME SAFETY
S.M.P.S. OUTPUT
S.M.P.S.
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪

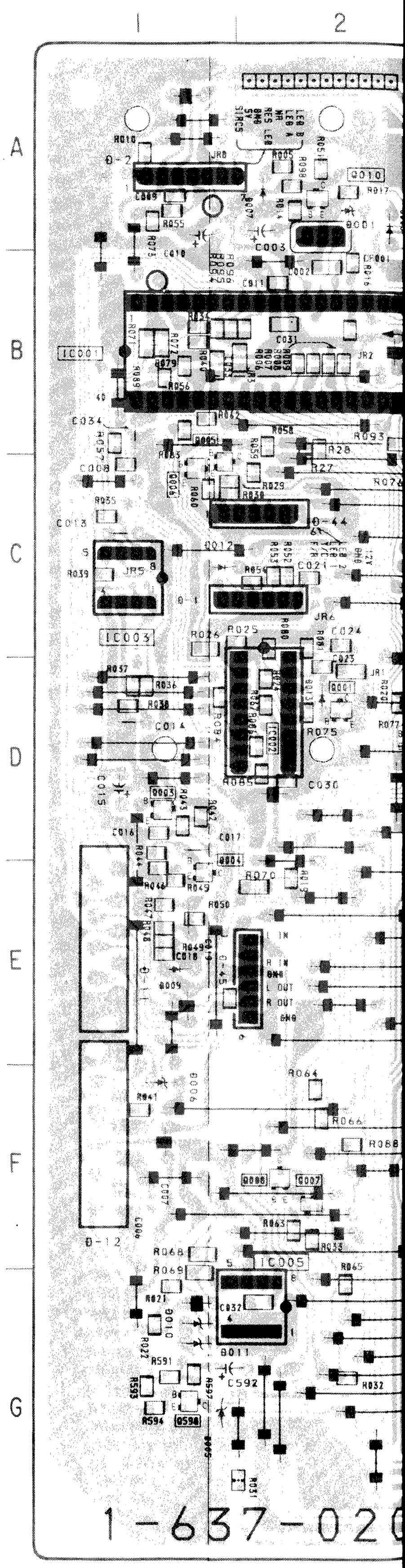
D BOARD IC601 TEA2260



⑨
⑩
③
⑤
④
⑯
⑮
⑭
TONSTART PROGRAM
VLF OSC ILL TON MAX MDD
+0.1V COMPAR
VOLTAGE REF. INTERN. REGUL.
VCC COMPARATOR
STOP
FLIP. FLOP
START
IC RECOPY
+1 AMP.
DELAY
-1 AMP.
RC OSC ILLATOR
SYNC. SWITCH
START STOP SHAPER
IC1 IC2 IC LIMIT
⑦
⑧
⑥
⑫
⑬
①
⑪
②

D [TUNING CONTROL, POWER CONTR
AUDIO OUT, H/V OUT

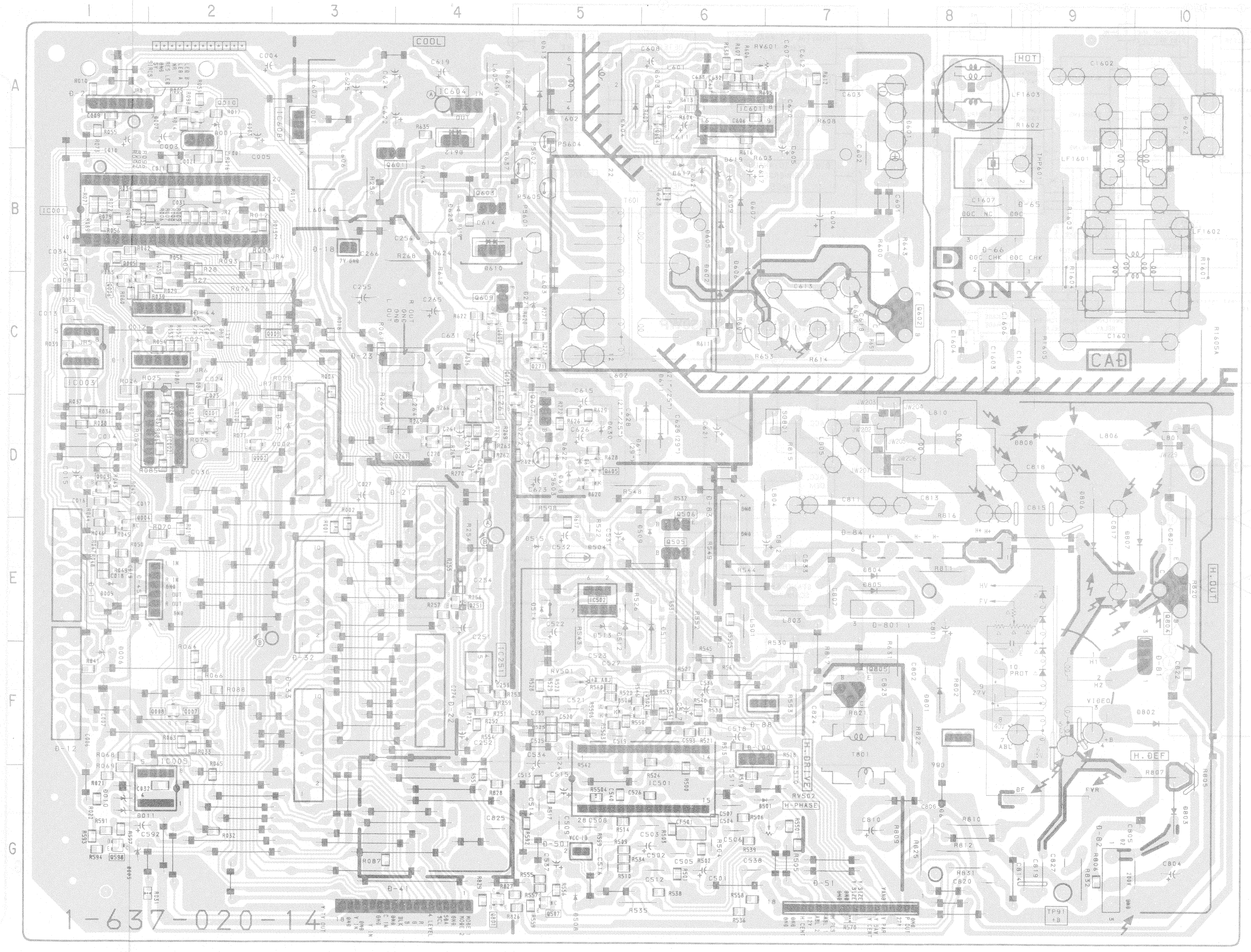
— D Board —



1
2
A
B
C
D
E
F
G
1-637-02

D [TUNING CONTROL, POWER CONTROL AUDIO OUT, H/V OUT]

— D Board —



— D Board —

IC	
IC001	B-2
IC002	D-2
IC003	C-1
IC005	G-2
IC251	F-4
IC261	D-4
IC501	G-6
IC502	E-5
IC601	A-6
IC604	A-4
IC608	A-3

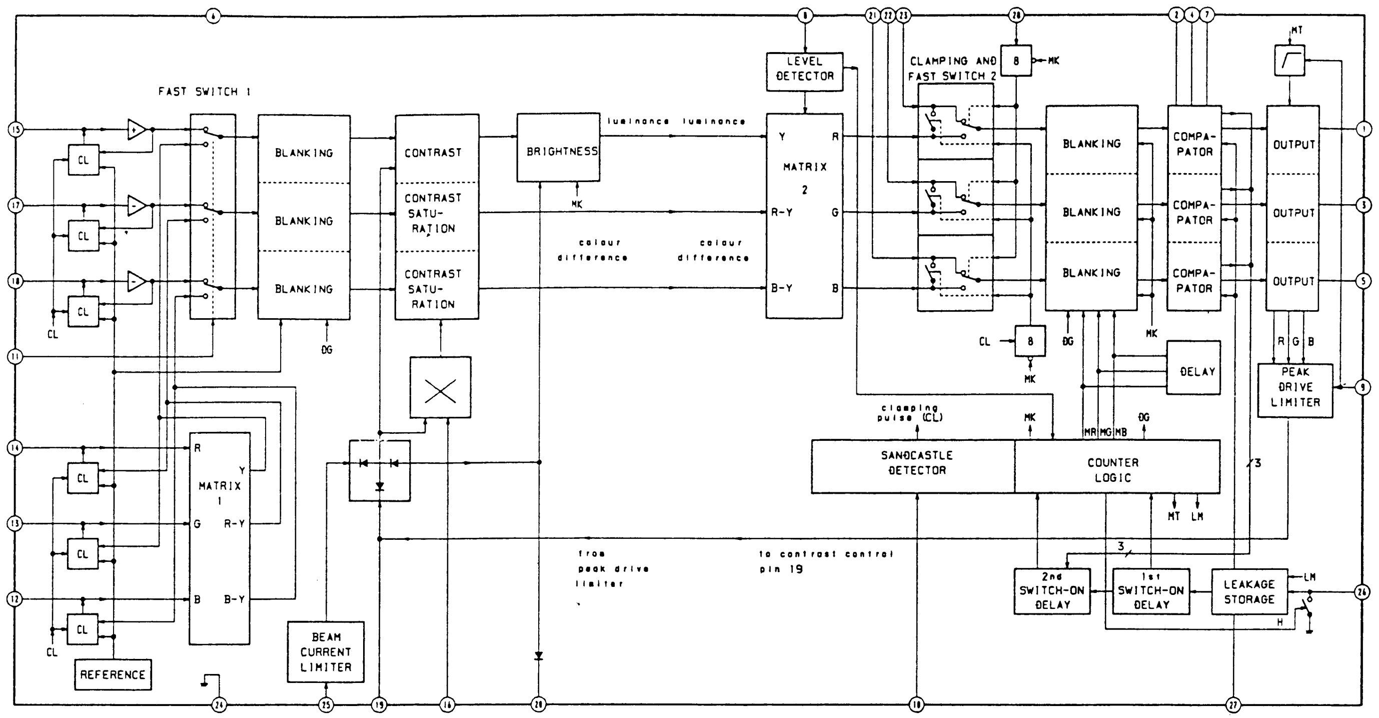
TRANSISTOR	
Q001	D-2
Q002	D-2
Q003	D-1
Q004	E-1
Q005	C-1
Q006	C-1
Q007	F-2
Q008	F-2
Q009	C-3
Q010	A-2
Q251	E-4
Q261	D-4
Q271	C-5
Q502	F-2
Q505	E-6
Q506	D-6
Q507	G-5
Q598	G-1
Q601	B-3
Q602	C-8
Q603	B-4
Q604	A-6
Q605	D-5
Q606	C-4
Q607	D-5
Q608	D-4
Q609	C-4
Q801	G-4
Q804	E-10
Q805	F-7

DIODE	
D001	A-2
D002	D-3
D003	A-2
D005	G-1
D006	F-1
D007	A-2
D009	E-1
D010	G-1
D011	G-1
D012	C-1
D013	D-2
D271	C-5
D272	D-5
D501	G-7
D504	E-5
D506	F-5
D508	G-5
D509	E-6
D511	E-6
D512	E-5
D513	E-5
D514	E-5
D515	E-5
D601	A-8
D602	C-6
D603	A-6
D604	A-5
D605	B-6
D606	B-6
D607	B-6
D608	C-7
D609	B-6
D610	B-4
D611	D-6
D612	A-4
D613	A-5
D614	A-5
D616	D-5
D617	B-6
D618	D-5
D619	B-6
D620	D-5
D621	B-6
D622	D-5
D623	B-4
D624	B-4
D630	D-5
D801	F-8
D802	F-10
D803	G-10
D804	E-7
D805	E-7
D806	E-9
D807	E-10
D808	D-9

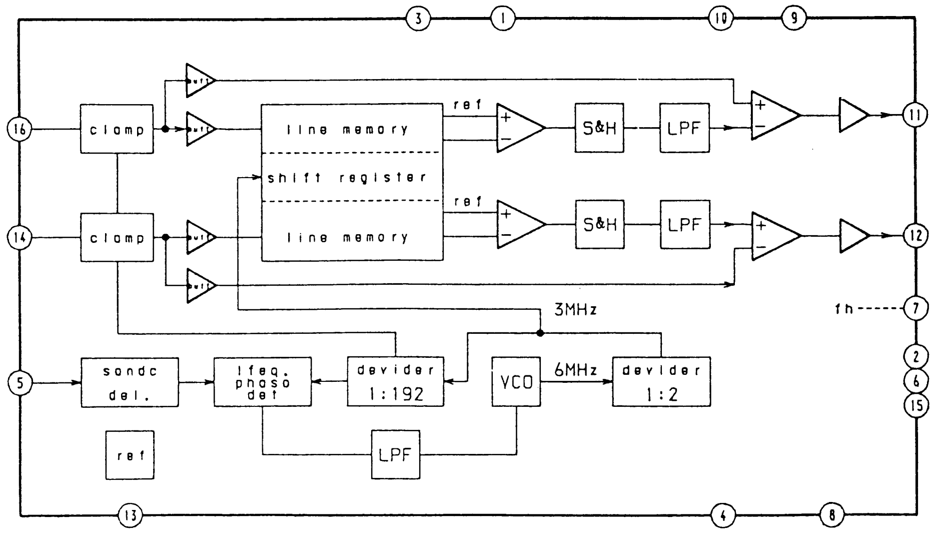
VARIABLE RESISTOR	
RV501	F-5
RV502	G-7
RV601	A-6

TP	
TP91	G-9

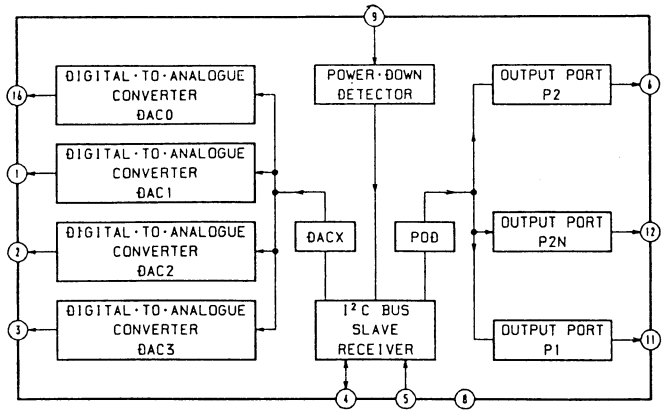
B1 BOARD IC301 TDA4580-V7


FAST SWITCH 1
CL
BLANKING
BLANKING
BLANKING
DG
CONTRAST
CONTRAST SATU-RATION
CONTRAST SATU-RATION
BRIGHTNESS
MK
luminance
luminance
colour difference
colour difference
LEVEL DETECTOR
MATRIX 2
Y
R
R-Y
G
B-Y
B
CLAMPING AND FAST SWITCH 2
8
MK
CL
8
MK
DG
BLANKING
BLANKING
BLANKING
MK
COMPA-PATOR
COMPA-PATOR
COMPA-PATOR
MT
OUTPUT
OUTPUT
OUTPUT
R
G
B
PEAK DRIVE LIMITER
DELAY
clamping pulse (CL)
MK
MR
MG
MB
DG
SANDCASTLE DETECTOR
COUNTER LOGIC
MT
LM
3
3
MATRIX 1
R
Y
G
R-Y
B
B-Y
REFERENCE
BEAM CURRENT LIMITER
from peak drive limiter
to contrast control pin 19
2nd SWITCH-ON DELAY
1st SWITCH-ON DELAY
LEAKAGE STORAGE
LM
H
6
8
21
22
23
28
2
4
7
15
17
18
11
14
13
12
1
3
5
9
26
24
25
19
16
20
10
27

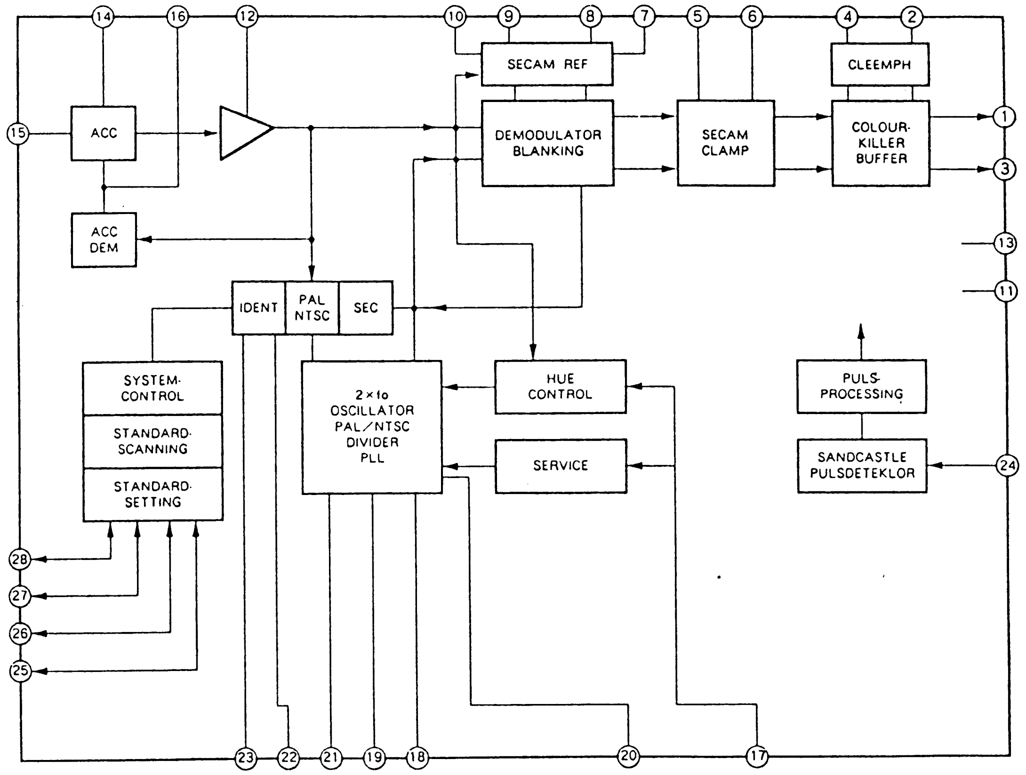
B1 BOARD IC303 TDA4660T


3
1
10
9
16
clamp
line memory
shift register
line memory
ref
ref
S&H
LPF
S&H
LPF
14
clamp
11
12
3MHz
fh
7
2
6
15
5
sondc del.
lfeq. phase det
devider 1:192
VCO
6MHz
devider 1:2
LPF
ref
13
4
8

B1 BOARD IC302 TDA8442-N3


9
14
DIGITAL-TO-ANALOGUE CONVERTER DAC0
1
DIGITAL-TO-ANALOGUE CONVERTER DAC1
2
DIGITAL-TO-ANALOGUE CONVERTER DAC2
3
DIGITAL-TO-ANALOGUE CONVERTER DAC3
POWER-DOWN DETECTOR
DACX
PDD
I²C BUS SLAVE RECEIVER
OUTPUT PORT P2
6
OUTPUT PORT P2N
12
OUTPUT PORT P1
11
4
5
8

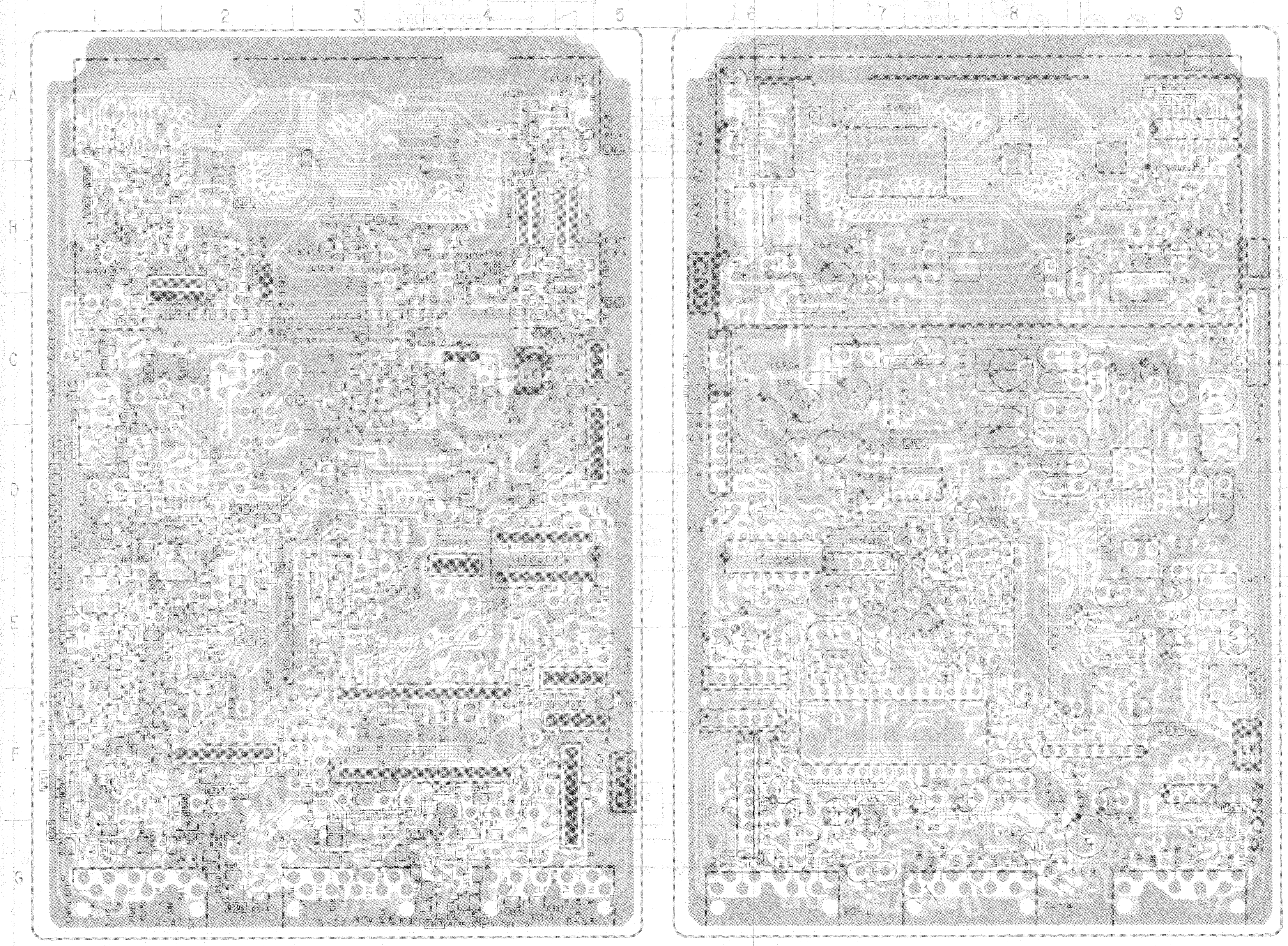
B1 BOARD IC304 TDA4650WP


14
16
12
10
9
8
7
5
6
4
2
15
ACC
ACC DEM
SECAM REF
DEMODULATOR BLANKING
SECAM CLAMP
CLEEMPH
COLOUR-KILLER BUFFER
1
3
13
11
IDENT
PAL NTSC
SEC
SYSTEM-CONTROL
STANDARD-SCANNING
STANDARD-SETTING
2×fo OSCILLATOR PAL/NTSC DIVIDER PLL
HUE CONTROL
SERVICE
PULS-PROCESSING
SANDCASTLE PULSDETEKLOR
24
28
27
26
25
23
22
21
19
18
20
17

B1 VIDEO PROCESSOR, COLOR PROCESSOR
Y/C SW, D/A CONVERTER, MEMORY
A/D CONVERTER

— **B1 Board** —

- ▨ : pattern from the side which enables seeing.
- ▨ : pattern of the rear side.



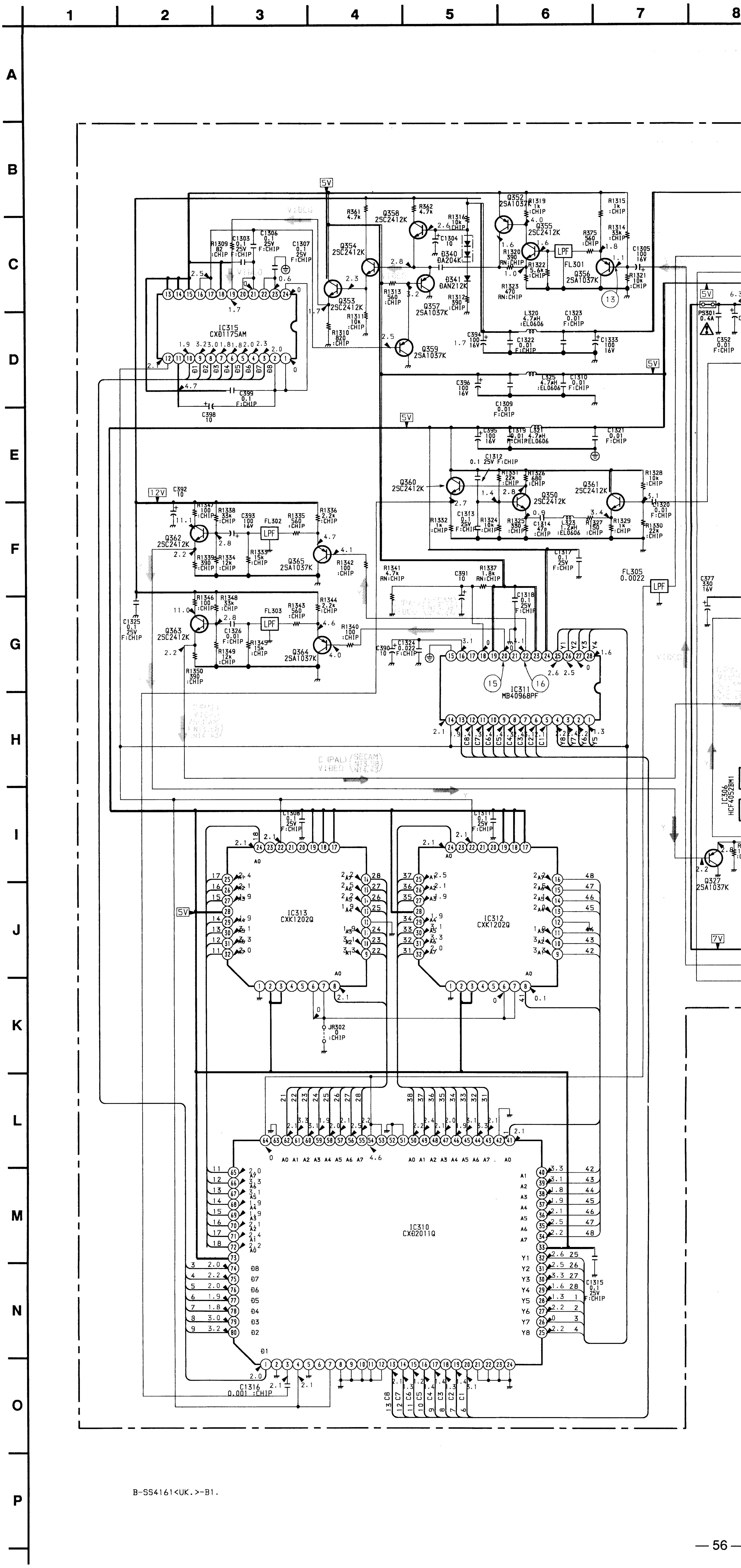
— **B1 Board** —

IC	
IC301	E – 6
IC302	D – 5
IC303	C – 6
IC304	C – 7
IC305	B – 6
IC306	E – 8
IC308	E – 7
IC310	A – 6
IC311	A – 5
IC312	A – 7
IC313	A – 6
IC315	A – 7
TRANSISTOR	
Q301	E – 3
Q302	E – 3
Q303	E – 3
Q304	F – 3
Q305	D – 4
Q306	F – 2
Q307	F – 3
Q308	E – 3
Q310	C – 1
Q311	C – 1
Q320	C – 2
Q321	B – 2
Q322	B – 3
Q323	C – 3
Q324	C – 2
Q327	E – 1
Q328	E – 1
Q329	E – 1
Q330	E – 1
Q331	E – 1
Q332	E – 1
Q333	E – 2
Q334	D – 2
Q335	D – 1
Q336	C – 1
Q337	C – 2
Q338	D – 1
Q339	D – 2
Q340	D – 2
Q341	D – 1
Q342	D – 2
Q343	E – 1
Q344	D – 1
Q345	D – 1
Q346	D – 2
Q347	E – 1
Q348	D – 2
Q350	B – 3
Q352	B – 1
Q353	A – 1
Q354	B – 1
Q355	B – 2
Q356	C – 1
Q357	B – 1
Q358	B – 1
Q359	B – 1
Q360	B – 3
Q361	B – 3
Q362	B – 4
Q363	B – 4
Q364	A – 4
Q365	A – 4
Q366	C – 3
Q367	D – 6
Q368	D – 6
Q369	D – 6
Q370	D – 6
Q371	D – 6
Q372	D – 6
Q373	E – 6
Q1301	D – 2
Q1302	D – 3
Q1303	E – 2
DIODE	
D301	D – 6
D304	E – 5
D305	E – 5
D307	E – 7
D308	E – 6
D309	F – 7
D310	D – 5
D311	D – 5
D312	D – 5
D314	D – 6
D318	D – 6
D319	D – 6
D320	D – 6
D321	C – 6
D322	E – 2
D330	C – 6
D331	E – 7
D333	D – 7
D336	B – 8
D340	B – 7
D341	B – 7
VARIABLE RESISTOR	
RV301	C – 8
TRIMMER	
CT301	C – 6
CT302	C – 6
COIL	
L303	C – 8
L308	D – 8
L312	D – 7
L313	D – 8

— B1 Board —

IC301	TDA4580-V7	VIDEO PROCESSOR
IC302	TDA8442N3	D/A CONVERTER
IC303	TDA4660T	1H DELAY
IC304	TDA4650WP	COLOR PROCESSOR
IC305	µPC24M05HF	REGULATOR
IC306	HCF4052BM	Y/C SW
IC308	CX20061	Y SW
IC310	CXD2011Q-TL	COMB CONTROL
IC311	MB40968PF	D/A CONVERTER
IC312	CXK1202Q-T4	MEMORY
IC313	CXK1202Q-T4	MEMORY
IC315	CXD1175AM-T5	A/D CONVERTER
Q301	2SC2412K	CANAL +BLK
Q302	2SC2412K	ON SCREEN DISPLAY SW
Q303	2SC2412K	FAS PICTURE MUTE SW
Q304	2SC2412K	ON SCREEN DISPLAY SW
Q305	DTA144EK	ANTI PRIORITY SCART
Q306	2SC2412K	STBY SW
Q307	2SC2412K	ABL
Q308	DTC124EK	MUTE
Q310	DTC124EK	SECAM SW
Q311	DTC124EK	SECAM SW
Q320	2SC2412K	HUE BUFFER
Q321	2SA1037K	CLK AMP3
Q322	2SA1037K	CLK AMP2
Q323	2SC2412K	CLK AMP1
Q324	2SC2412K	CLK BUFFER
Q327	2SA1037K	Y OUT
Q328	2SA1037K	VIDEO IN
Q329	2SA1037K	Y IN
Q330	2SC2412K	VIDEO BUFFER
Q331	2SA1037K	C OUT
Q332	2SA1037K	C IN
Q333	DTC124EK	Y/C SW
Q334	DTC124EK	Y SW
Q335	2SC2412K	SECAM SW
Q336	2SC2412K	NTSC (3.58) SW
Q337	2SC2412K	NTSC (4.43) SW
Q338	2SA1037K	Y BUFFER
Q339	2SC2412K	Y BUFFER
Q340	2SC2412K	Y BUFFER
Q341	2SC2412K	SECAM TRAP SW
Q342	2SC2412K	NTSC TRAP SW
Q343	2SC2412K	C OUT
Q344	2SC2412K	SECAM SW
Q345	2SC2412K	PAL/SECAM SW
Q346	2SC2412K	Y IN
Q347	2SC2412K	PAL SW
Q348	DTC124EK	NTSC (3.58) SW
Q350	2SC2412K	CLK AMP
Q352	2SA1037K	VIDEO AMP
Q353	2SC2412K	BUFFER

Q354	2SC2412K	BUFFER
Q355	2SC2412K	VIDEO AMP
Q356	2SA1037K	VIDEO BUFFER
Q357	2SA1037K	CLAMP BIAS
Q358	2SC2412K	VIDEO CLAMP
Q359	2SA1037K	CLAMP BIAS
Q360	2SC2412K	CLK BUFFER
Q361	2SC2412K	CLK AMP
Q362	2SC2412K	Y BUFFER
Q363	2SC2412K	C BUFFER
Q364	2SA1037K	C BUFFER
Q365	2SA1037K	Y BUFFER
Q366	2SC2412K	SHP BUFFER
Q367	2SC2412K	Y BUFFER
Q368	2SC2412K	SHP AMP
Q369	2SC2412K	SHP AMP
Q370	2SC2412K	SHP AMP
Q371	2SC2412K	VM BUFFER
Q372	2SC2412K	VM AMP
Q373	DTC124EK	
Q1301	DTC124EK	Y BUFFER
Q1302	2SC2412K	Y BUFFER
Q1303	DTC124EK	VM MUTE
D301	1MN10	ACO AT ATBY
D304	DAN212K	PROTECT
D305	DAN212K	PROTECT
D307	MA3110M	PROTECT
D308	DAN212K	PROTECT
D309	DAN212K	PROTECT
D310	MA3110M	PROTECT
D311	MA3110M	PROTECT
D312	MA3110M	PROTECT
D314	DA204K	PROTECT
D318	DA204K	PROTECT
D319	DA204K	PROTECT
D320	DA204K	PROTECT
D321	MA3056	REG
D322	DAN202K	PROTECT
D330	DAN212K	BIAS
D331	DAP202K	Y/C SW
D333	1MN10	SYSTEM SW
D336	DAN202K	CORRECT SW
D340	DA204K	VIDEO AMP
D341	DAN212K	VIDEO AMP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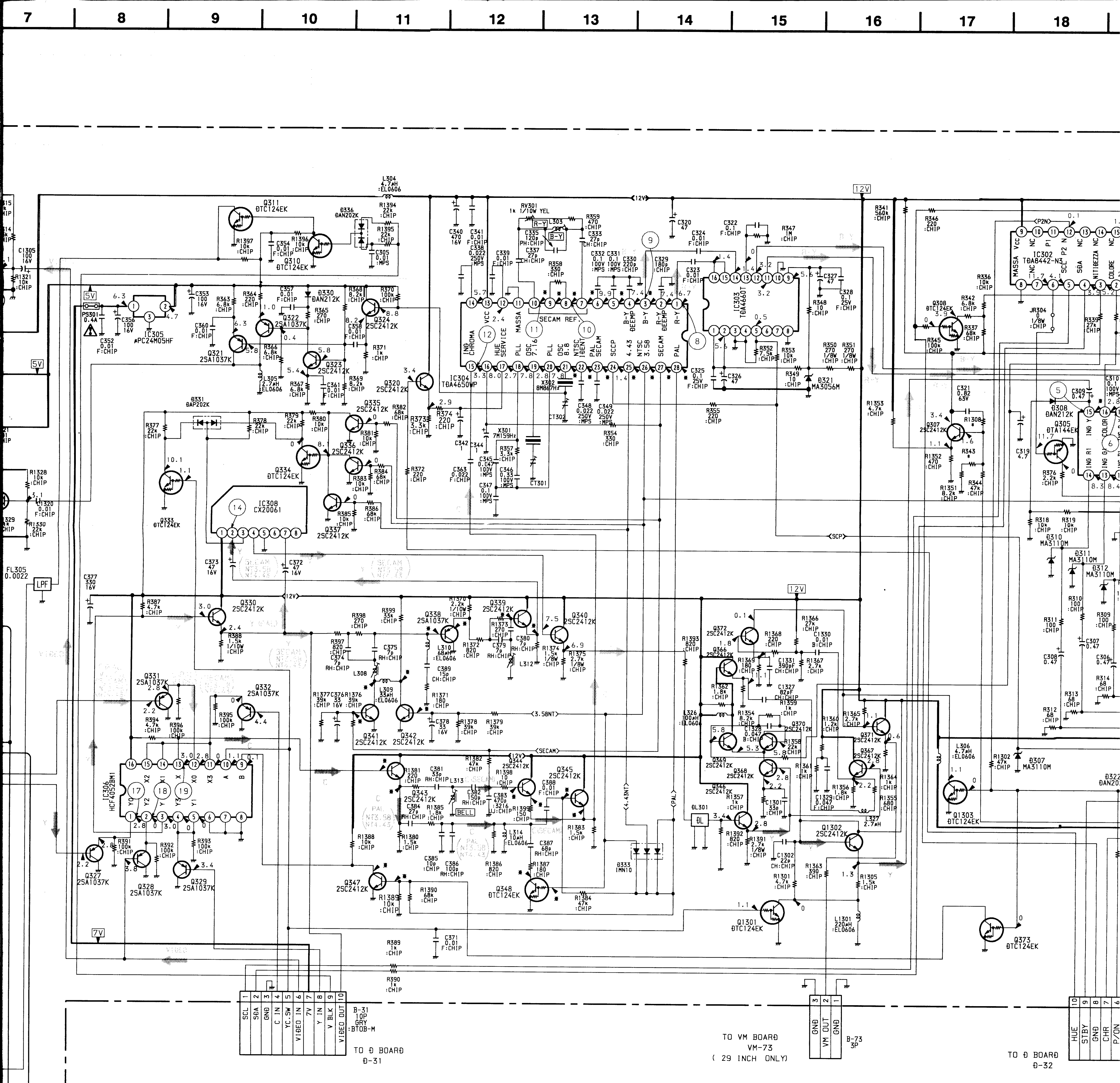
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
5V
12V
7V
IC315
CXD1175AM
IC311
MB40968PF
IC313
CXK1202Q
IC312
CXK1202Q
IC310
CXD2011Q
IC306
HCF4052BM
Q352
2SA1037K
Q355
2SC2412K
Q356
2SA1037K
Q358
2SC2412K
Q354
2SC2412K
Q353
2SC2412K
Q357
2SA1037K
Q359
2SA1037K
Q360
2SC2412K
Q350
2SC2412K
Q361
2SC2412K
Q362
2SC2412K
Q365
2SA1037K
Q363
2SC2412K
Q364
2SA1037K
Q327
2SA1037K
D340
DA204K
D341
DAN212K
LPF
FL301
FL302
FL303
FL305
0.0022
PS301
0.4A
JR302
0
:CHIP
C1316
0.001 :CHIP
C1315
0.1
25V
F:CHIP
VIDEO
C (PAL)
Y
B-SS4161<UK.>-B1.


7
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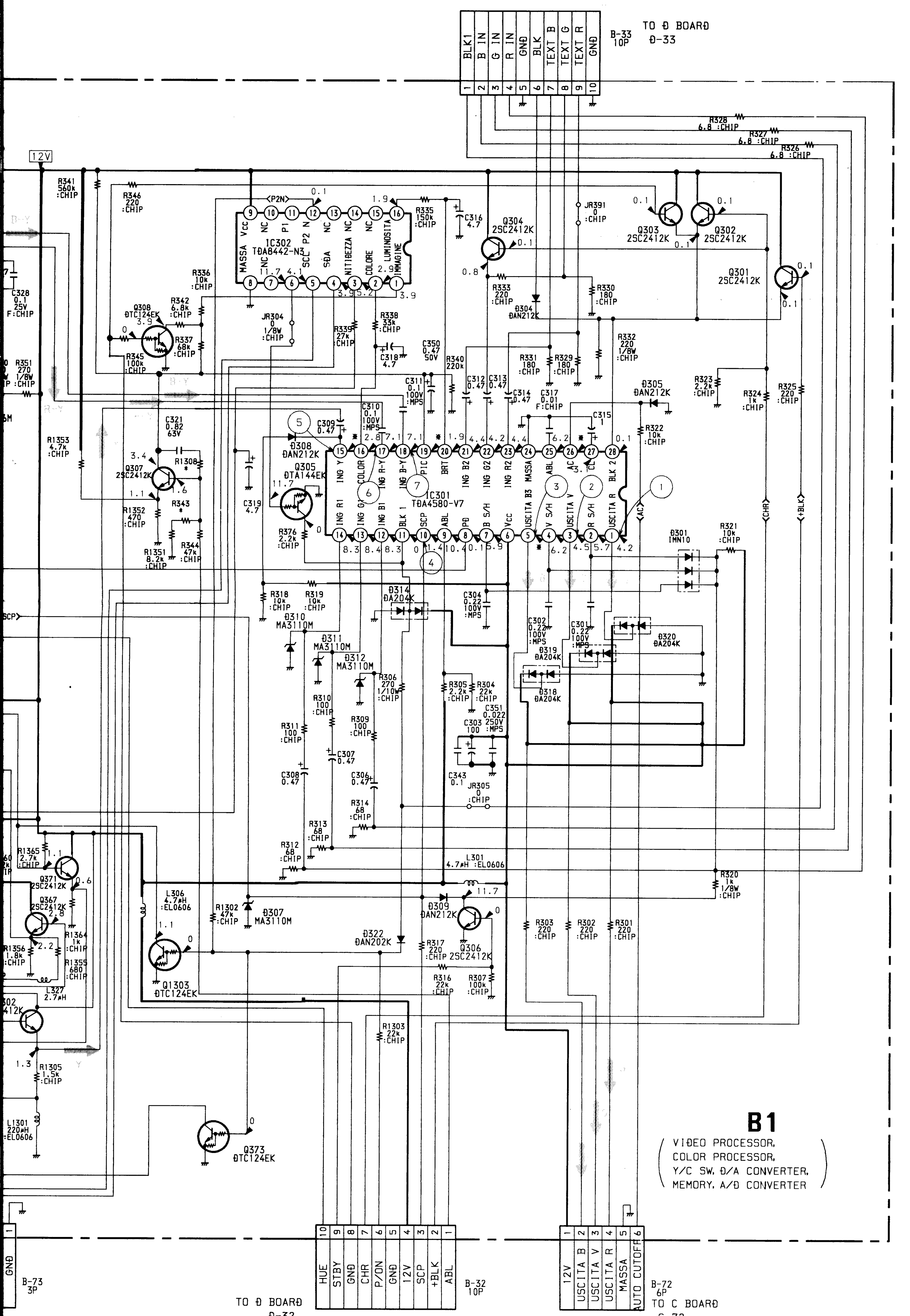
17
18
IC304 TDA4650WP
IC303 TDA4660T
IC302 TDA8442-N3
IC305 μPC24M05HF
IC306 HCF4052BM1
IC308 CX20061
X301 7M159Hz
X302 8M867Hz
PS301 0.4A
FL305 0.0022
LPF
5V
7V
12V
SECAM REF.
BELL
DL301
Q311 DTC124EK
Q310 DTC124EK
Q321 2SA1037K
Q322 2SA1037K
Q323 2SC2412K
Q324 2SC2412K
Q320 2SC2412K
Q330 2SC2412K
Q331 2SA1037K
Q332 2SA1037K
Q327 2SA1037K
Q328 2SA1037K
Q329 2SA1037K
Q333 DTC124EK
Q334 DTC124EK
Q335 2SC2412K
Q336 2SC2412K
Q337 2SC2412K
Q338 2SA1037K
Q339 2SC2412K
Q340 2SC2412K
Q341 2SC2412K
Q342 2SC2412K
Q343 2SC2412K
Q344 2SC2412K
Q345 2SC2412K
Q347 2SC2412K
Q348 DTC124EK
Q1301 DTC124EK
Q1302 2SC2412K
Q1303 DTC124EK
Q373 DTC124EK
Q307 2SC2412K
Q308 DTC124EK
Q305 DTA144EK
D321 MA3056M
D307 MA3110M
D310 MA3110M
D311 MA3110M
D312 MA3110M
D333 1MN10
D331 DAP202K
D336 DAN202K
D330 DAN212K
D308 DAN212K
L304 4.7μH :EL0606
L1301 220μH :EL0606
L306 4.7μH :EL0606
RV301 1k 1/10W YEL
SCL
SDA
GND
C IN
YC.SW
VIDEO IN
7V
Y IN
V BLK
VIDEO OUT
B-31 10P GRY :BTOB-M
TO D BOARD D-31
GND
VM OUT
GND
TO VM BOARD VM-73 (29 INCH ONLY)
B-73 3P
HUE
STBY
GND
CHR
P/ON
TO D BOARD D-32
SCP
SECAM
PAL
4.43NT
3.58NT
VIDEO

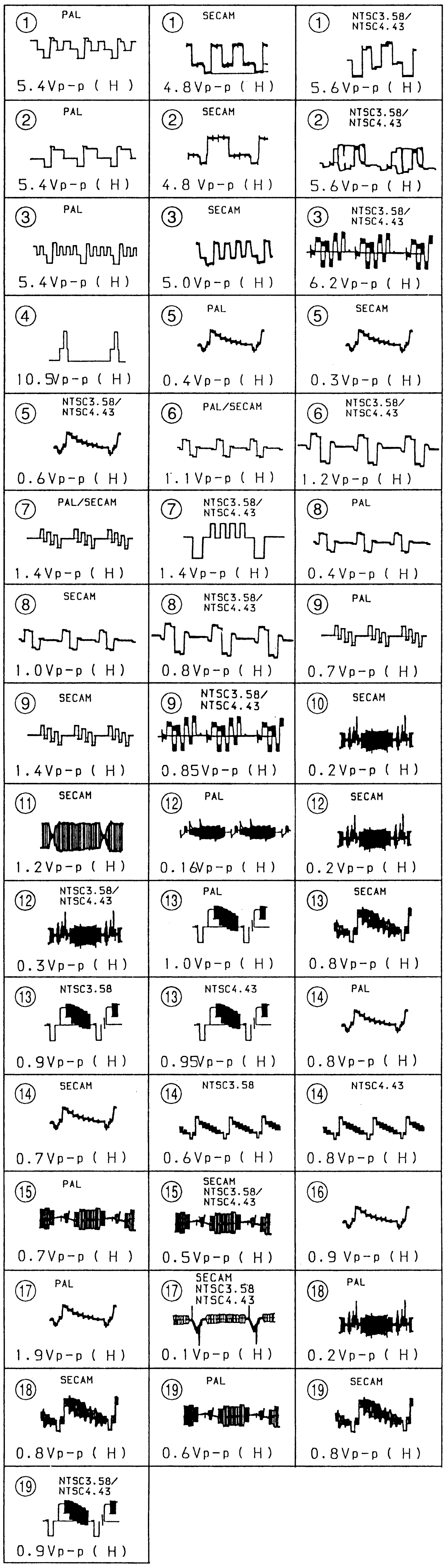
— B1 Board —

As to the voltage
make ※ on the Sche
the another list.

IC·NO	PIN·NO	PAL	SECAM	NT 3.
IC301	⑤	5.1	4.8	
	⑮	7.3	7.0	
	⑲	3.1	3.4	
	㉖	6.6	6.6	
IC304	③	6.8	6.8	
	⑤	9.9	10.1	
	⑦	4.3	3.5	
	⑧	3.4	3.0	
	⑨	3.4	3.0	
	⑩	4.3	3.4	
	㉑	2.3	3.1	
	㉒	5.6	5.6	
	㉓	7.5	7.5	
	㉕	0	1.4	
	㉖	0	0	
	㉗	0	5.9	
	㉘	5.9	0	


B1
VIDEO PROCESSOR, COLOR PROCESSOR, Y/C SW, D/A CONVERTER, MEMORY, A/D CONVERTER
BLK1
B IN
G IN
R IN
GND
BLK
TEXT B
TEXT G
TEXT R
GND
B-33 10P
TO D BOARD D-33
IC302 TDA8442-N3
IC301 TDA4580-V7
Q301 2SC2412K
Q302 2SC2412K
Q303 2SC2412K
Q304 2SC2412K
Q305 DTA144EK
Q306 2SC2412K
Q307 2SC2412K
Q308 DTC124EK
Q373 DTC124EK
Q1303 DTC124EK
12V
HUE
STBY
GND
CHR
P/ON
GND
12V
SCP
+BLK
ABL
B-32 10P
TO D BOARD D-32
12V
USCITA B
USCITA V
USCITA R
MASSA
AUTO CUTOFF
B-72 6P
TO C BOARD C-72
GND
B-73 3P

— B1 Board —



— B1 Board —

As to the voltage value shown by the make ※ on the Schematic Diagram, see the another list.

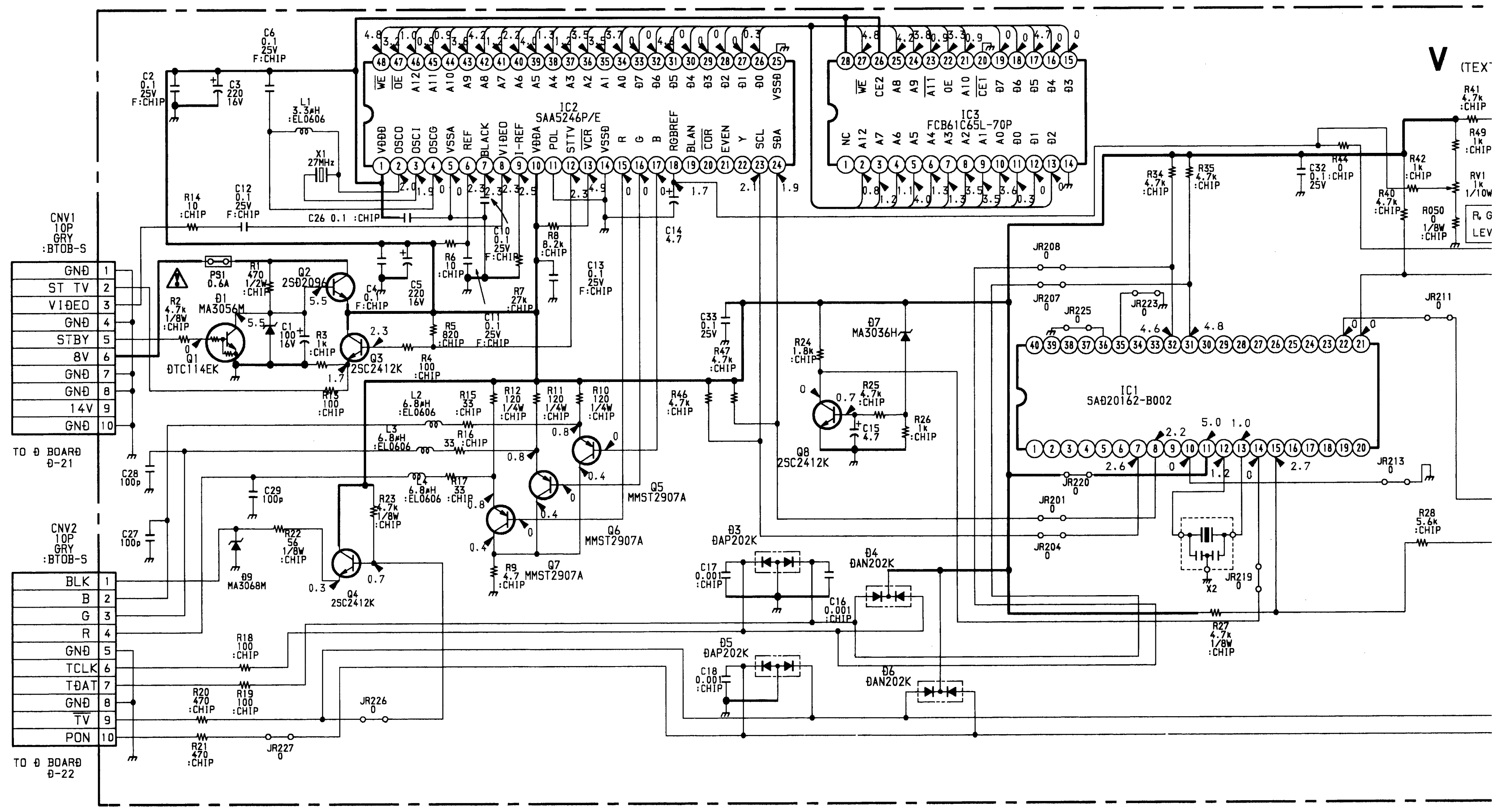
IC·NO	PIN·NO	PAL	SECAM	NTSC 3.38	NTSC 4.43
IC301	⑤	5.1	4.8	4.8	4.8
	⑮	7.3	7.0	7.0	7.0
	⑲	3.1	3.4	3.8	3.4
	㉖	6.6	6.6	6.0	6.3
IC304	③	6.8	6.8	6.9	6.8
	⑤	9.9	10.1	9.9	9.9
	⑦	4.3	3.5	4.6	4.6
	⑧	3.4	3.0	3.4	3.4
	⑨	3.4	3.0	3.4	3.4
	⑩	4.3	3.4	4.6	4.6
	㉑	2.3	3.1	3.1	2.3
	㉒	5.6	5.6	5.6	7.4
	㉓	7.5	7.5	5.7	5.7
	㉕	0	1.4	5.9	5.9
	㉖	0	0	0	0
	㉗	0	5.9	0	0
	㉘	5.9	0	0	0

Q·NO		PAL	SECAM	NTSC 3.38	NTSC 4.43
Q338	B	2.6	3.9	3.9	3.9
	E	3.3	4.6	4.6	4.6
Q339	B	3.2	4.6	4.6	4.6
	E	3.6	3.9	3.9	3.9
Q341	B	0	0.6	0.4	0.1
	C	11.8	0	11.6	11.6
Q342	B	0	0	0.4	0
	C	11.7	0	11.7	11.7
Q343	B	3.2	5.3	5.3	5.3
	E	2.6	4.6	4.7	4.7
Q344	B	0	5.4	1.0	0.1
	E	4.0	4.8	1.5	4.5
Q345	B	4.6	0.1	1.9	5.0
	E	4.0	4.4	1.4	4.4
Q347	B	0.6	0	0	0
	C	0.1	11.9	11.9	11.9
Q348	B	0.1	0.1	1.0	0.1
	C	0.4	0.2	0.2	0.4

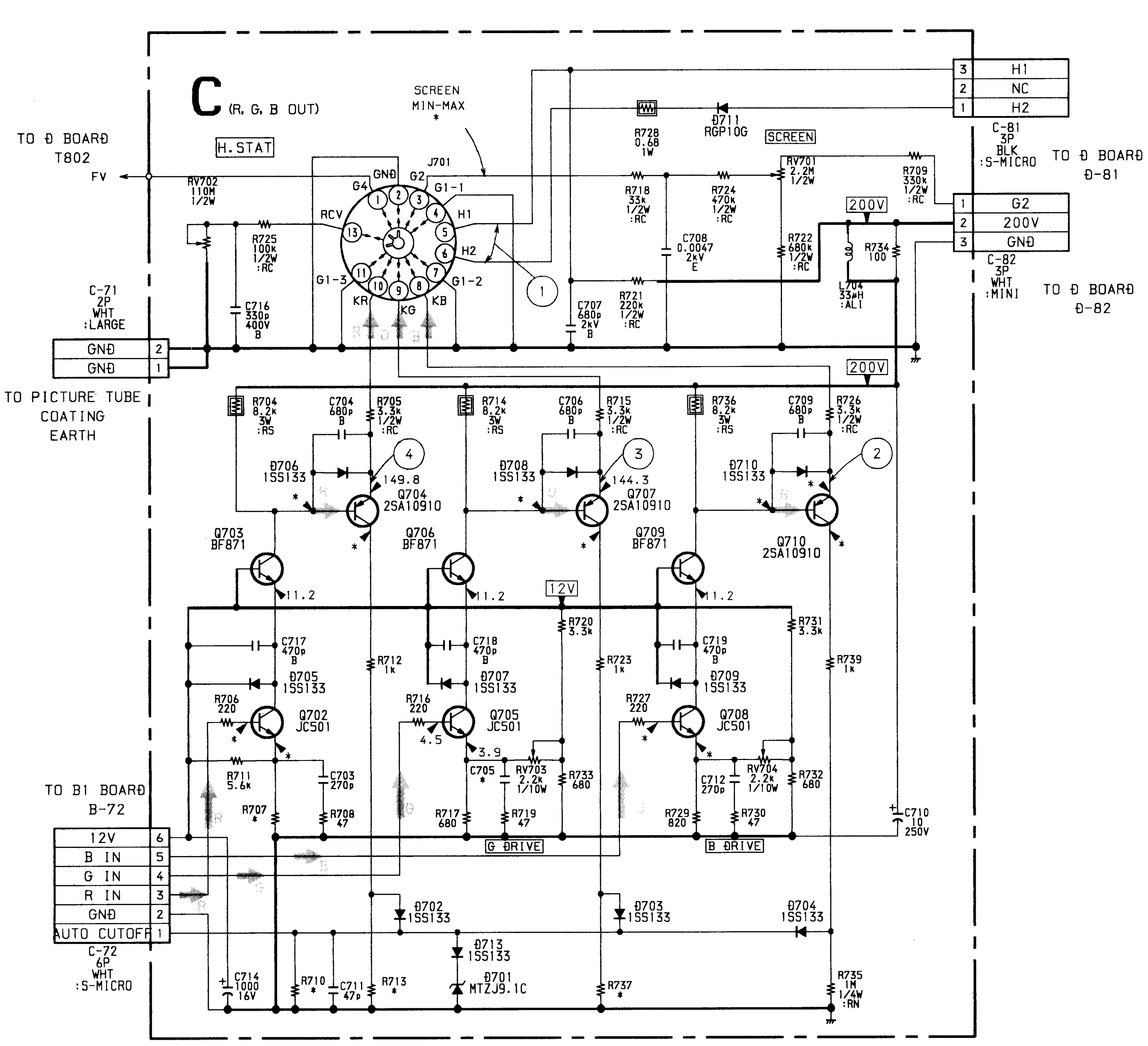
— B1 BOARD ∗ MARK —

	KV-A2121D	KV-A2521D	KV-A2921D
B-73	OPEN	OPEN	3P
R343	220 1/10W	270 1/10W	1.2K 1/10W
R1308	0 1/10W	0 1/10W	4.7K 1/10W

— V Board —


V (TEXT
IC1 SAD20162-B002
IC2 SAA5246P/E
IC3 FCB61C65L-70P
CNV1 10P GRY :BTOB-S
GND
ST TV
VIDEO
GND
STBY
8V
GND
GND
14V
GND
TO D BOARD D-21
CNV2 10P GRY :BTOB-S
BLK
B
G
R
GND
TCLK
TDAT
GND
TV
PON
TO D BOARD D-22
Q1 DTC114EK
Q2 2SD2096
Q3 2SC2412K
Q4 2SC2412K
Q5 MMST2907A
Q6 MMST2907A
Q7 MMST2907A
Q8 2SC2412K
D1 MA3056M
D3 DAP202K
D4 DAN202K
D5 DAP202K
D6 DAN202K
D7 MA3036H
D9 MA3068M
X1 27MHz
X2

— C Board —


C (R, G, B OUT)
H.STAT
SCREEN MIN-MAX
SCREEN
J701
TO D BOARD T802
FV
C-71 2P WHT :LARGE
GND
GND
TO PICTURE TUBE COATING EARTH
TO B1 BOARD B-72
12V
B IN
G IN
R IN
GND
AUTO CUTOFF
C-72 6P WHT :S-MICRO
H1
NC
H2
C-81 3P BLK :S-MICRO
TO D BOARD D-81
G2
200V
GND
C-82 3P WHT :MINI
TO D BOARD D-82
G DRIVE
B DRIVE
Q702 JC501
Q703 BF871
Q704 2SA10910
Q705 JC501
Q706 BF871
Q707 2SA10910
Q708 JC501
Q709 BF871
Q710 2SA10910

B-¥SS4161<UK.>-C.. ,P1

— V Board —

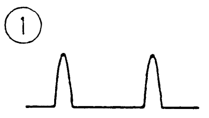
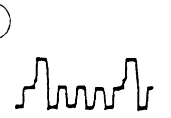
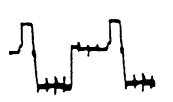
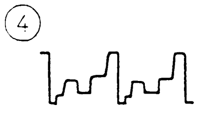
B-SS4172<

IC1	MAB8461P-W208	MICRO-CONT
IC2	SAA5246E	IVT
IC3	FCB61C65L-70P	STATIC-RAM
Q1	DTC114EK	STAND BY
Q2	2SD2096	5V REG
Q3	2SC2412K	SYNC BUFFER
Q4	2SC2412K	BLK OUT
Q5	MMST2907A	B OUT
Q6	MMST2907A	G OUT
Q7	MMST2907A	R OUT
Q8	2SC2412K	P ON SW
D1	MA3056M	5V REG
D3	DAP202K	PROTECT
D4	DAN202K	PROTECT
D5	DAP202K	PROTECT
D6	DAN202K	PROTECT
D7	MA3036H	PROTECT
D9	MA3068M	PROTECT

— C Board —

Q702	JC501	R DRIVE
Q703	BF871	R OUT
Q704	2SA10910	ACO MEASURING
Q705	JC501	G DRIVE
Q706	BF871	G OUT
Q707	2SA10910	ACO MEASURING
Q708	JC501	B DRIVE
Q709	BF871	B OUT
Q710	2SA10910	ACO MEASURING
D701	MTZJ9.1C	PROTECT
D702	1SS133	PROTECT
D703	1SS133	PROTECT
D704	1SS133	PROTECT
D705	1SS133	PROTECT
D706	1SS133	PROTECT
D707	1SS133	PROTECT
D708	1SS133	PROTECT
D709	1SS133	PROTECT
D710	1SS133	PROTECT
D711	RGP10G	HEATING VOLTAGE REC
D713	1SS133	PROTECT

— C Board —

①  22 Vp-p (H)	②  90 Vp-p (H)
③  100Vp-p (H)	④  120Vp-p (H)

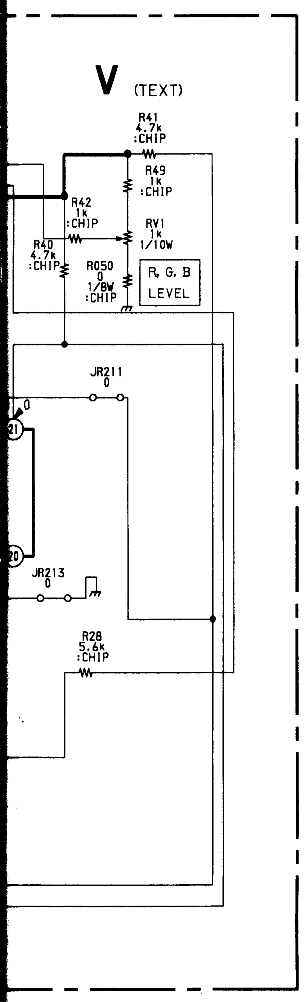
— C Board —

As to the voltage value shown by the make ✱ on the Schematic Diagram, see the another list.

		KV-A2121D	KV-A2521D	KV-A2921D
Q702	B	3.8	4.2	
	E	3.2	3.6	
Q703	C	153.8	145.8	
Q704	B	153.8	145.8	
	C	4.7	5.3	
	E	149.8	138.9	
Q706	C	149.0	145.5	
Q707	B	149.0	145.5	
	C	4.9	6.0	
	E	144.3	141.6	
Q708	B	5.1	4.7	
	E	4.5	4.1	
Q709	C	151.0	131.5	
Q710	B	151.0	131.5	
	C	6.7	7.2	
	E	145.8	126.9	
SCREEN	MIN	170.9	201	
	MAX	907	926	

— C BOARD ✱ MARK —

	KV-A2121D	KV-A2521D
C705	180P	220P
R707	430	390
R710	100K 1/4W 1%	68K 1/4W 1%
R713	160K 1/4W 1%	120K 1/4W 1%
R737	390K 1/4W 1%	820K 1/4W 1%


V (TEXT)
R41 4.7k :CHIP
R49 1k :CHIP
R42 1k :CHIP
RV1 1k 1/10W
R40 4.7k :CHIP
R050 0 1/8W :CHIP
R, G, B LEVEL
JR211 0
21
20
JR213 0
R28 5.6k :CHIP

B-SS4172<AEP>-V..

CONT
-RAM
BY
UFFER
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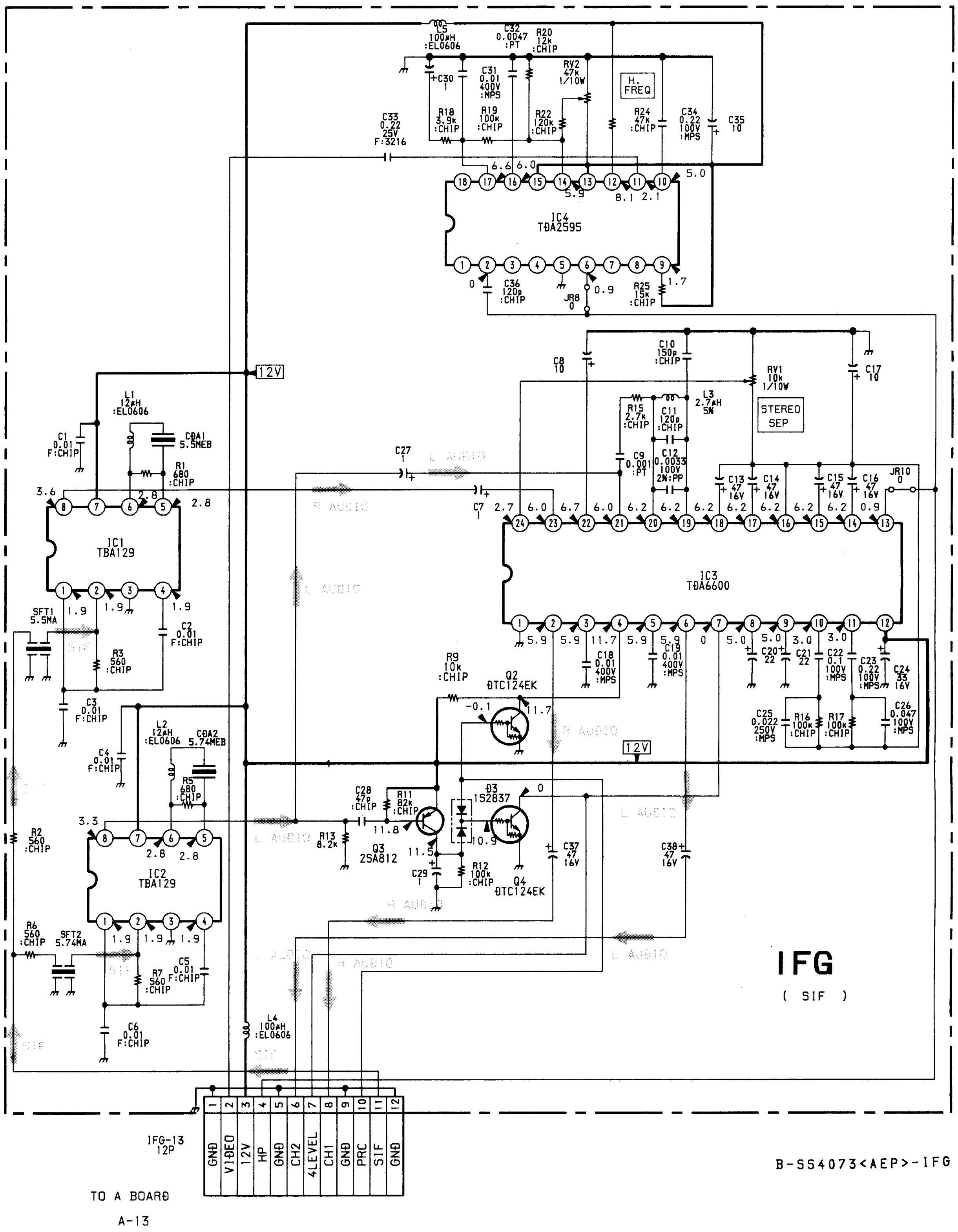
VE
EASURING
VE
EASURING
VE
EASURING
CT
CT
CT
CT
CT
CT
CT
CT
CT
CT
NG VOLTAGE REC
CT

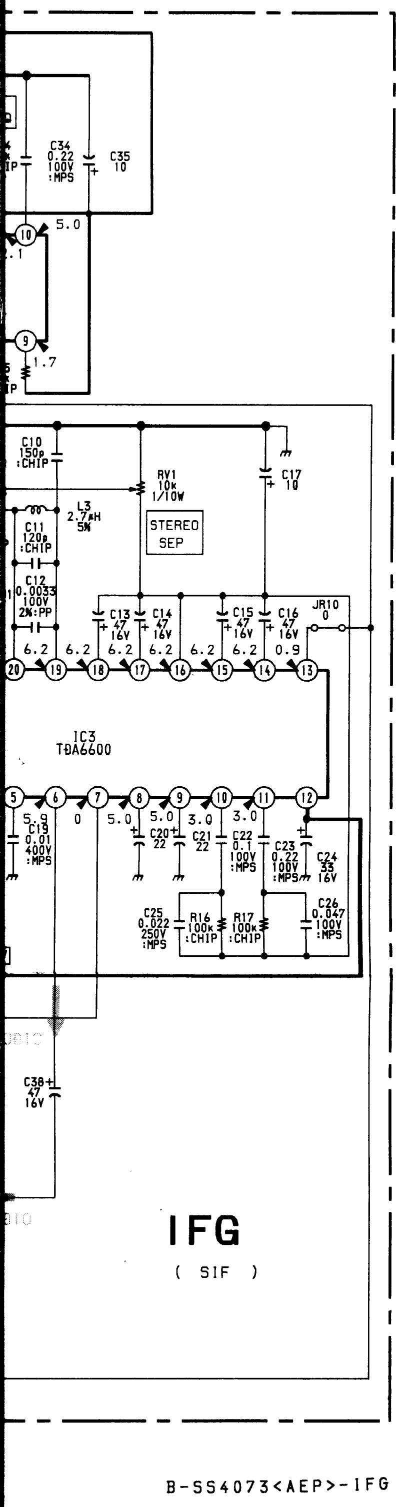
KV-A2521D	KV-A2921D
220P	220P
390	390
68K 1/4W 1%	68K 1/4W 1%
120K 1/4W 1%	120K 1/4W 1%
820K 1/4W 1%	470K 1/4W 1%


L5 100µH :EL0606
C32 0.0047 :PT
R20 12k :CHIP
C30 1
C31 0.01 400V :MPS
RV2 47k 1/10W
H. FREQ
C33 0.22 25V F:3216
R18 3.9k :CHIP
R19 100k :CHIP
R22 120k :CHIP
R24 47k :CHIP
C34 0.22 100V :MPS
C35 10
IC4 TDA2595
C36 120p :CHIP
JR8 0
R25 15k :CHIP
C10 150p :CHIP
C8 10
RV1 10k 1/10W
C17 10
L3 2.7µH 5%
STEREO SEP
R15 2.7k :CHIP
C11 120p :CHIP
C9 0.001 :PT
C12 0.0033 100V 2%:PP
C27 1
C7 1
C13 47 16V
C14 47 16V
C15 47 16V
C16 47 16V
JR10 0
12V
L1 12µH :EL0606
C1 0.01 F:CHIP
CDA1 5.5MEB
R1 680 :CHIP
IC1 TBA129
SFT1 5.5MA
C2 0.01 F:CHIP
R3 560 :CHIP
C3 0.01 F:CHIP
IC3 TDA6600
C18 0.01 400V :MPS
C19 0.01 400V :MPS
C20 22
C21 22
C22 0.1 100V :MPS
C23 0.22 100V :MPS
C24 33 16V
C25 0.022 250V :MPS
R16 100k :CHIP
R17 100k :CHIP
C26 0.047 100V :MPS
R9 10k :CHIP
Q2 DTC124EK
L2 12µH :EL0606
CDA2 5.74MEB
C4 0.01 F:CHIP
R5 680 :CHIP
R2 560 :CHIP
C28 47p :CHIP
R11 82k :CHIP
D3 1S2837
R13 8.2k
Q3 2SA812
C29 1
R12 100k :CHIP
Q4 DTC124EK
C37 47 16V
C38 47 16V
IC2 TBA129
R6 560 :CHIP
SFT2 5.74MA
R7 560 :CHIP
C5 0.01 F:CHIP
C6 0.01 F:CHIP
L4 100µH :EL0606
L AUDIO
R AUDIO
SIF
IFG
(SIF)
IFG-13 12P
GND
VIDEO
12V
HP
GND
CH2
4LEVEL
CH1
GND
PRC
SIF
GND
TO A BOARD
A-13

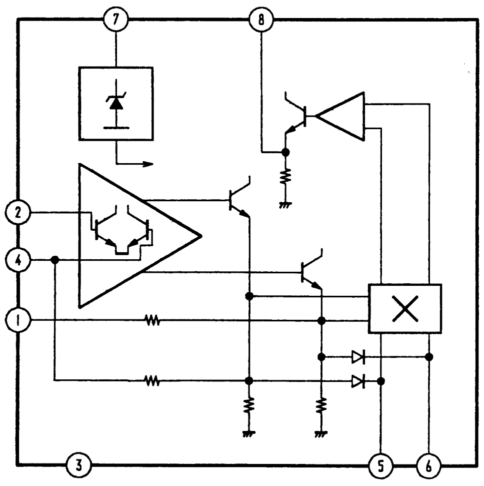
B-SS4073<AEP>-IFG

— IFG Board —

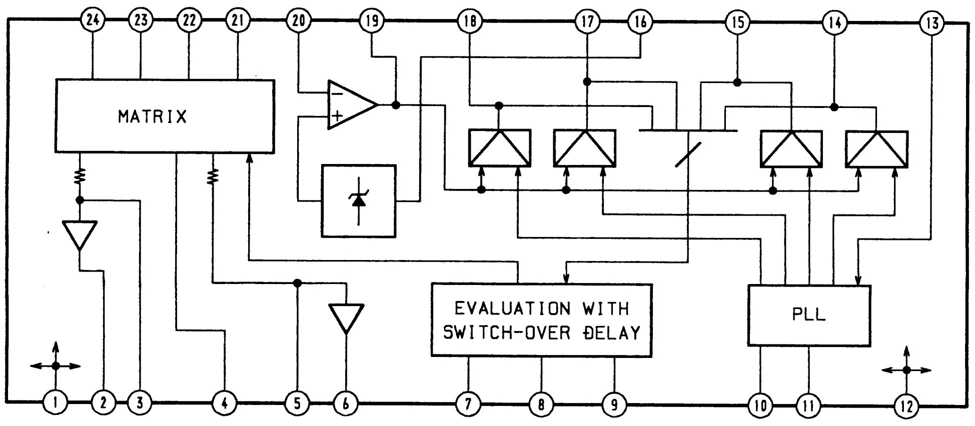
IC1	TBA129	5.5 DET
IC2	TBA129	5.74DET
IC3	TDA6600	SIF DET AMP
IC4	TDA2595	H.FREQ AMP
Q2	DTC124EK	SW
Q3	2SA812	SW
Q4	DTC124EK	SW
D3	1S2837	SW


C34
0.22
100V
:MPS
C35
10
5.0
1.7
C10
150p
:CHIP
RV1
10k
1/10W
C17
10
L3
2.7μH
5%
STEREO
SEP
C11
120p
:CHIP
C12
0.0033
100V
2%:PP
C13 47 16V
C14 47 16V
C15 47 16V
C16 47 16V
JR10
0
6.2
6.2
6.2
6.2
6.2
6.2
0.9
IC3
TDA6600
5.9
0
5.0
5.0
3.0
3.0
C19
0.01
400V
:MPS
C20 22
C21 22
C22
0.1
100V
:MPS
C23
0.22
100V
:MPS
C24
33
16V
C25
0.022
250V
:MPS
R16
100k
:CHIP
R17
100k
:CHIP
C26
0.047
100V
:MPS
C38
47
16V
IFG
(SIF)
B-SS4073<AEP>-IFG

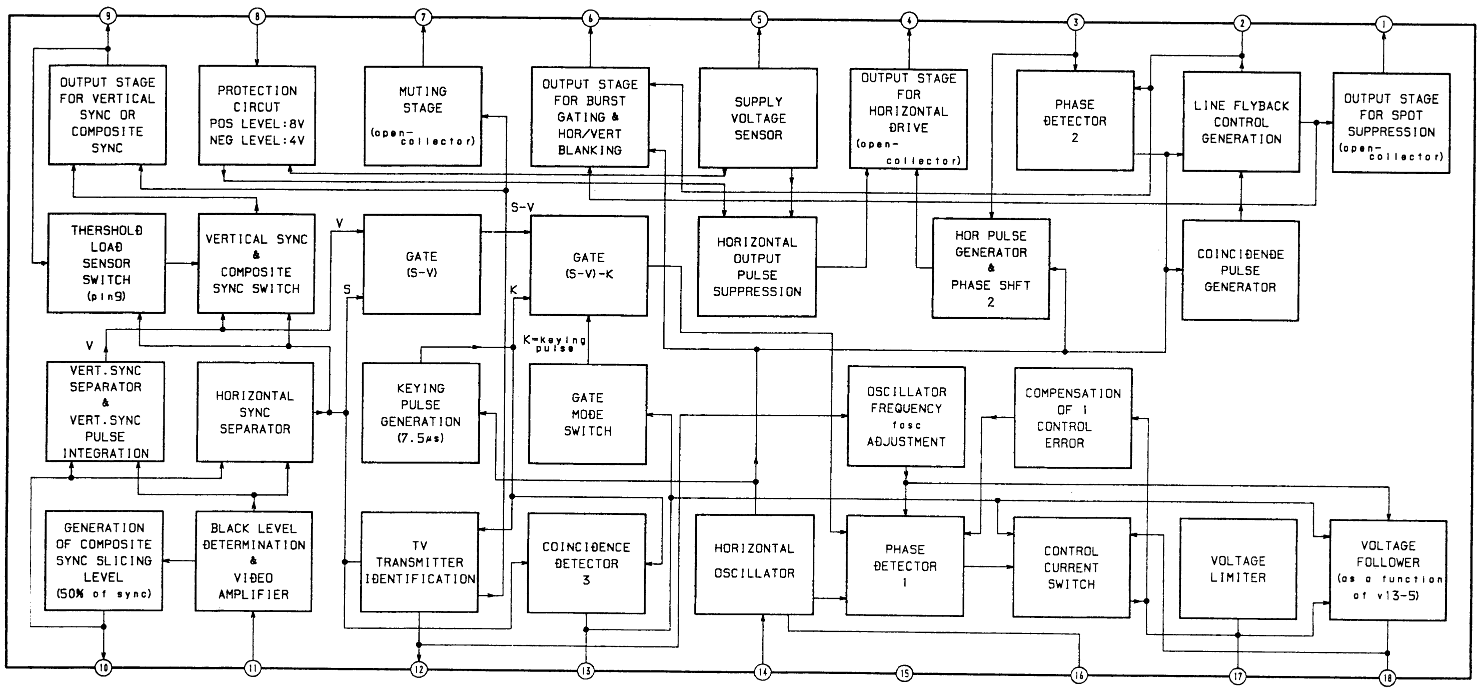
IFG BOARD IC1/IC2 TBA129



IFG BOARD IC3 TDA6600

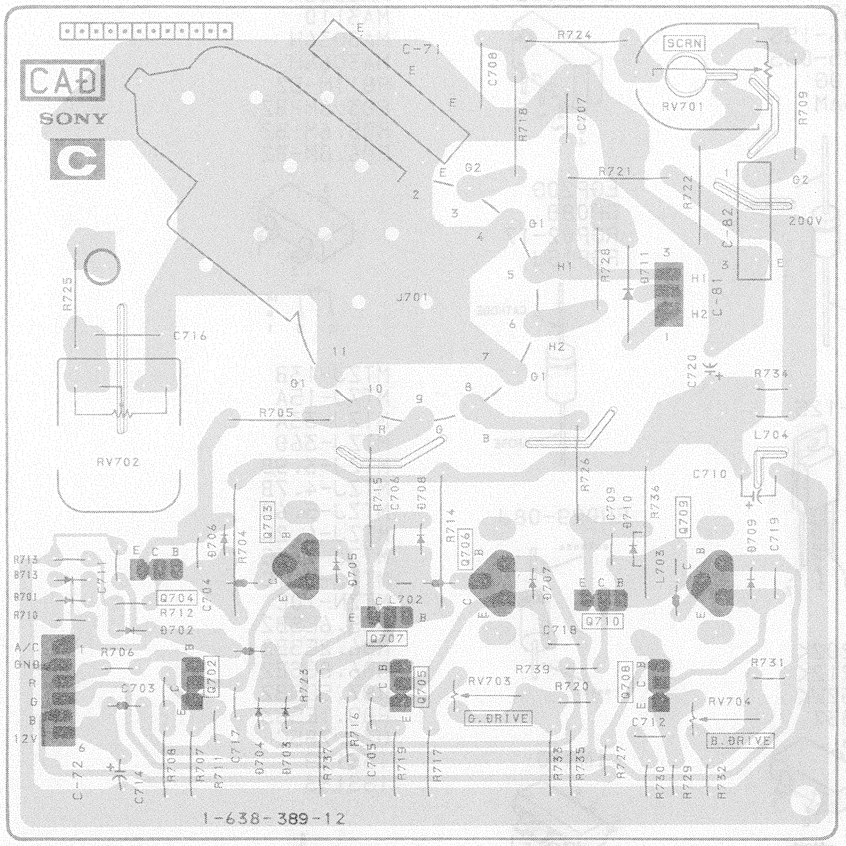

24
23
22
21
20
19
18
17
16
15
14
13
MATRIX
EVALUATION WITH
SWITCH-OVER DELAY
PLL
1
2
3
4
5
6
7
8
9
10
11
12

IFG BOARD IC4 TDA2595

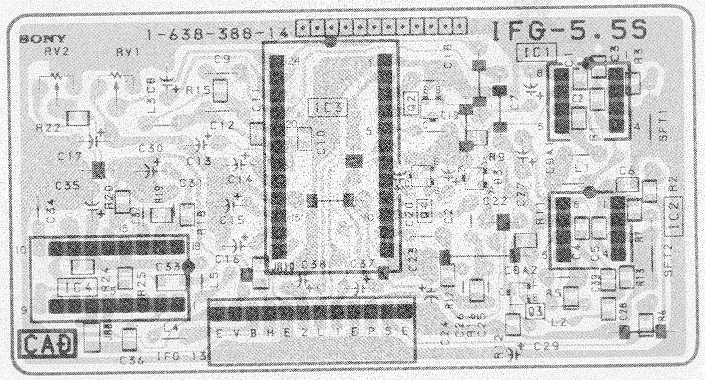

9
8
7
6
5
4
3
2
1
OUTPUT STAGE FOR VERTICAL SYNC OR COMPOSITE SYNC
PROTECTION CIRCUT POS LEVEL:8V NEG LEVEL:4V
MUTING STAGE (open-collector)
OUTPUT STAGE FOR BURST GATING & HOR/VERT BLANKING
SUPPLY VOLTAGE SENSOR
OUTPUT STAGE FOR HORIZONTAL DRIVE (open-collector)
PHASE DETECTOR 2
LINE FLYBACK CONTROL GENERATION
OUTPUT STAGE FOR SPOT SUPPRESSION (open-collector)
THERSHOLD LOAD SENSOR SWITCH (pin9)
VERTICAL SYNC & COMPOSITE SYNC SWITCH
V
S
GATE (S-V)
S-V
K
GATE (S-V)-K
HORIZONTAL OUTPUT PULSE SUPPRESSION
HOR PULSE GENERATOR & PHASE SHFT 2
COINCIDENDE PULSE GENERATOR
V
VERT.SYNC SEPARATOR & VERT.SYNC PULSE INTEGRATION
HORIZONTAL SYNC SEPARATOR
KEYING PULSE GENERATION (7.5μs)
K=keying pulse
GATE MODE SWITCH
OSCILLATOR FREQUENCY fosc ADJUSTMENT
COMPENSATION OF 1 CONTROL ERROR
GENERATION OF COMPOSITE SYNC SLICING LEVEL (50% of sync)
BLACK LEVEL DETERMINATION & VIDEO AMPLIFIER
TV TRANSMITTER IDENTIFICATION
COINCIDENCE DETECTOR 3
HORIZONTAL OSCILLATOR
PHASE DETECTOR 1
CONTROL CURRENT SWITCH
VOLTAGE LIMITER
VOLTAGE FOLLOWER (as a function of v13-5)
10
11
12
13
14
15
16
17
18

C [R·G·B OUT] IFG [SIF]

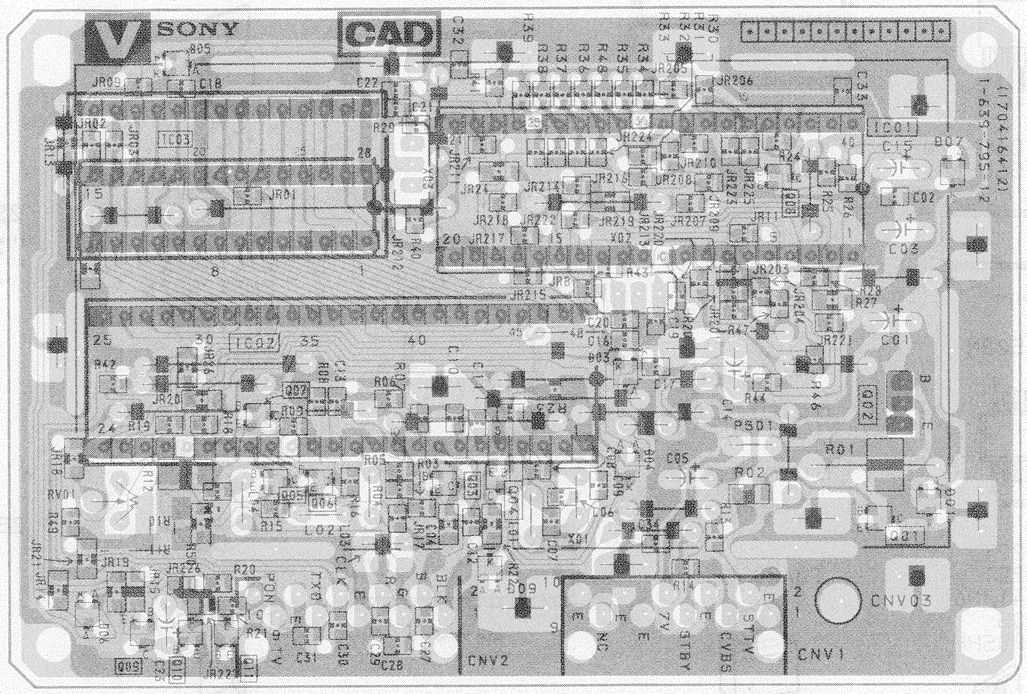
— C Board —


CAD
SONY
C
SCRN
RV701
RV702
J701
G.DRIVE
B.DRIVE
1-638-389-12

— IFG Board —


SONY
1-638-388-14
IFG-5.5S
RV2
RV1
CAD
IFG-13

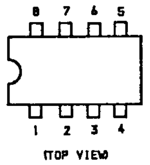
V [TELE TEXT]


V
SONY
CAD
1-639-795-12
CNV03
CNV1
CNV2

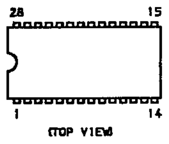
- ▨ : pattern from the side which enables seeing.
- ░ : pattern of the rear side.

5-4. SEMICONDUCTORS

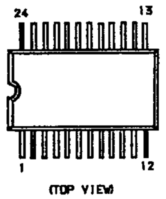
BA4558
NE5532P
RC4558P
SDA2546
TBA129
TDA1543
TEA2014A
TEA2031A


8 7 6 5
1 2 3 4
(TOP VIEW)

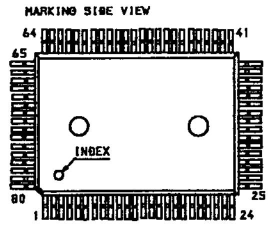
CXA1114P
CXK5864BP-10L
MAB8461P-W208
SAA5246P/E
SAA7280
TC5565APL-15L
TDA4580-V7
TDA6200
TEA2028B


28
15
1
14
(TOP VIEW)

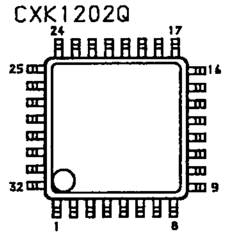
CXD1175AM


24
13
1
12
(TOP VIEW)

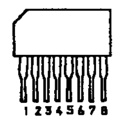
CXD2011Q


MARKING SIDE VIEW
64
41
65
INDEX
80
1
25
24

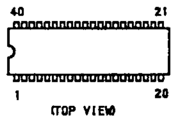
CXK1202Q


24
17
25
16
32
9
1
8

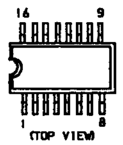
CX20061



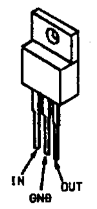
FCB61C65L-70P
SDA20560-A012


40
21
1
20
(TOP VIEW)

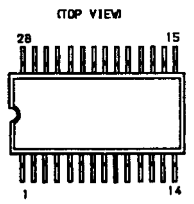
HCF4052BM


16
9
1
8
(TOP VIEW)

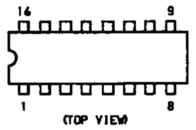
LM7812CT
MC7812CT
TDA8341/N6
TEA7605
µPC24M05HF



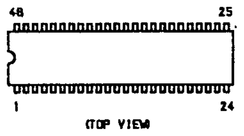
MB40968PF


(TOP VIEW)
28
15
1
14

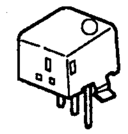
MC14051BCP
MC14053BCP
PC8574
TDA2545A-V4
TDA4660T
TDA8442N3
TEA2260
µPD4053BC


14
9
1
8
(TOP VIEW)

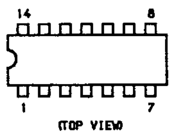
SAA5246P/E/M4A


48
25
1
24
(TOP VIEW)

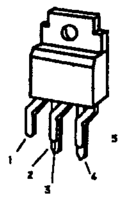
SBX1610-11



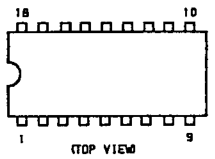
SN74LS02N


14
8
1
7
(TOP VIEW)

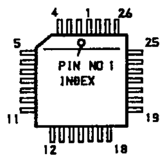
TDA2050



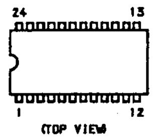
TDA2579/V9


18
10
1
9
(TOP VIEW)

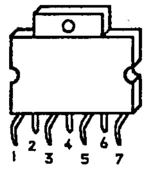
TDA4650WP


4
1
26
5
25
PIN NO 1
INDEX
11
19
12
18

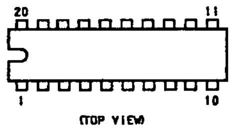
TDA6600-2


24
13
1
12
(TOP VIEW)

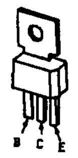
TDA8170



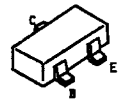
TDA8732


20
11
1
10
(TOP VIEW)

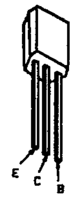
BF871



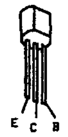
DTA144EK
DTC114EK
DTC124EK
DTC144EK
MMST2907A
2SA1037K
2SA1162
2SA812
2SB1295
2SC1623
2SC2412
2SC2712



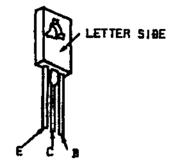
DTC144ES



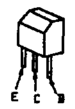
JC501
2SA1091



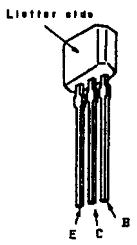
2SA1220A
2SB1357
2SC2688


LETTER SIDE
E C B

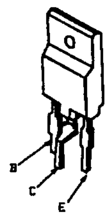
2SB734
2SD773
2SD774



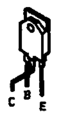
2SC2785


Letter side
E C B

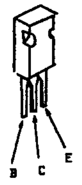
2SD1548



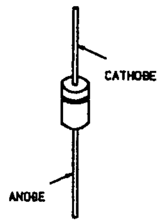
2SD1941



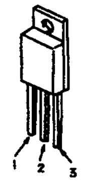
2SD2096



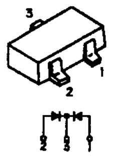
BR405B
BB809
ERC06-15S
ERC25-06S
RGP10G
RU-3AM


CATHODE
ANODE

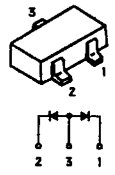
CTU-12S



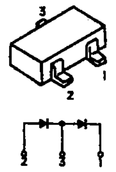
DAN202K
DAN212K
MA152WK
1S2837



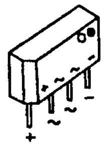
DAP202K



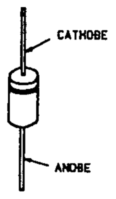
DA204K
1S226



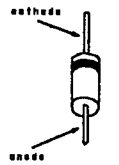
D4SB60L-F



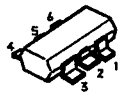
EGP20G
GP08D
RGP02-17
RGP15J


CATHODE
ANODE

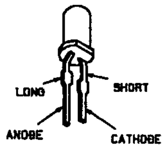
ERD29-08J


cathode
anode

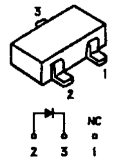
IMN10



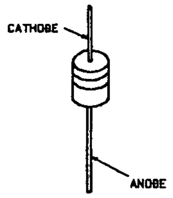
LD-201VR


LONG
SHORT
ANODE
CATHODE

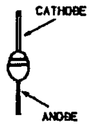
MA3056M
MA3110
MA3036H
MA3068M
RD11M-B2
RD3.6M-B2
RD5.6M-B2
RD6.8M-B2



MTZJ-13B
MTZJ-15A
MTZJ-33A
MTZJ-36D
MTZJ-3.9B
MTZJ-4.7B
MTZJ-5.6B
MTZJ-6.2C
MTZJ-7.5C
MTZJ-9.1C
MTZN-10C
RD5.6ESB2
RD6.2ESB2
RD6.8ESB2
RD7.5ESB2
RD9.1ESB3
UZ4.7BSC
1SS119
1SS133


CATHODE
ANODE

U05G


CATHODE
ANODE

SECTION 6
EXPLODED VIEWS

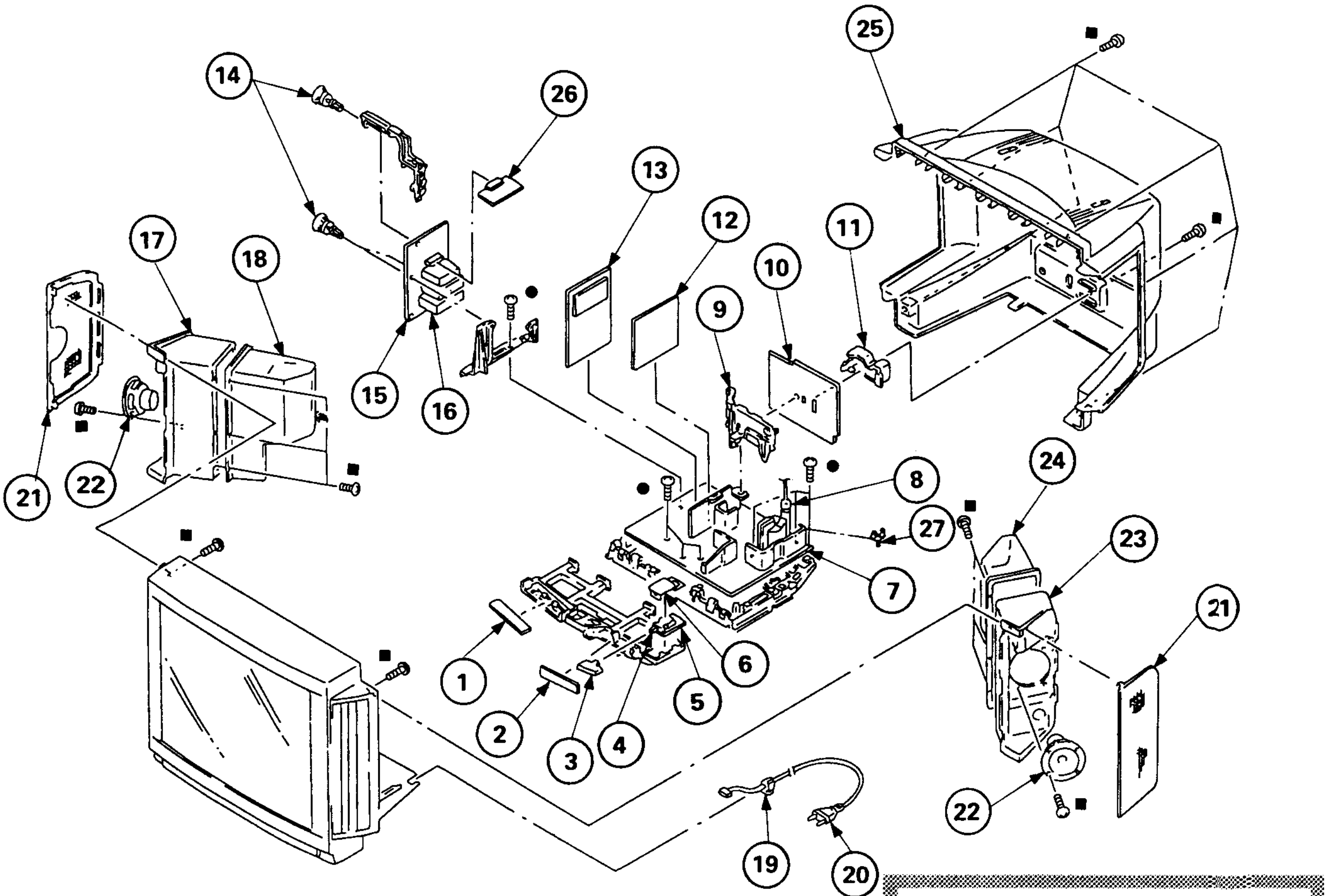
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "∗" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. CHASSIS (KV-A2121D)

● : BVTP3x12 7-685-648-79
■ : BVTP4x16 7-685-663-79

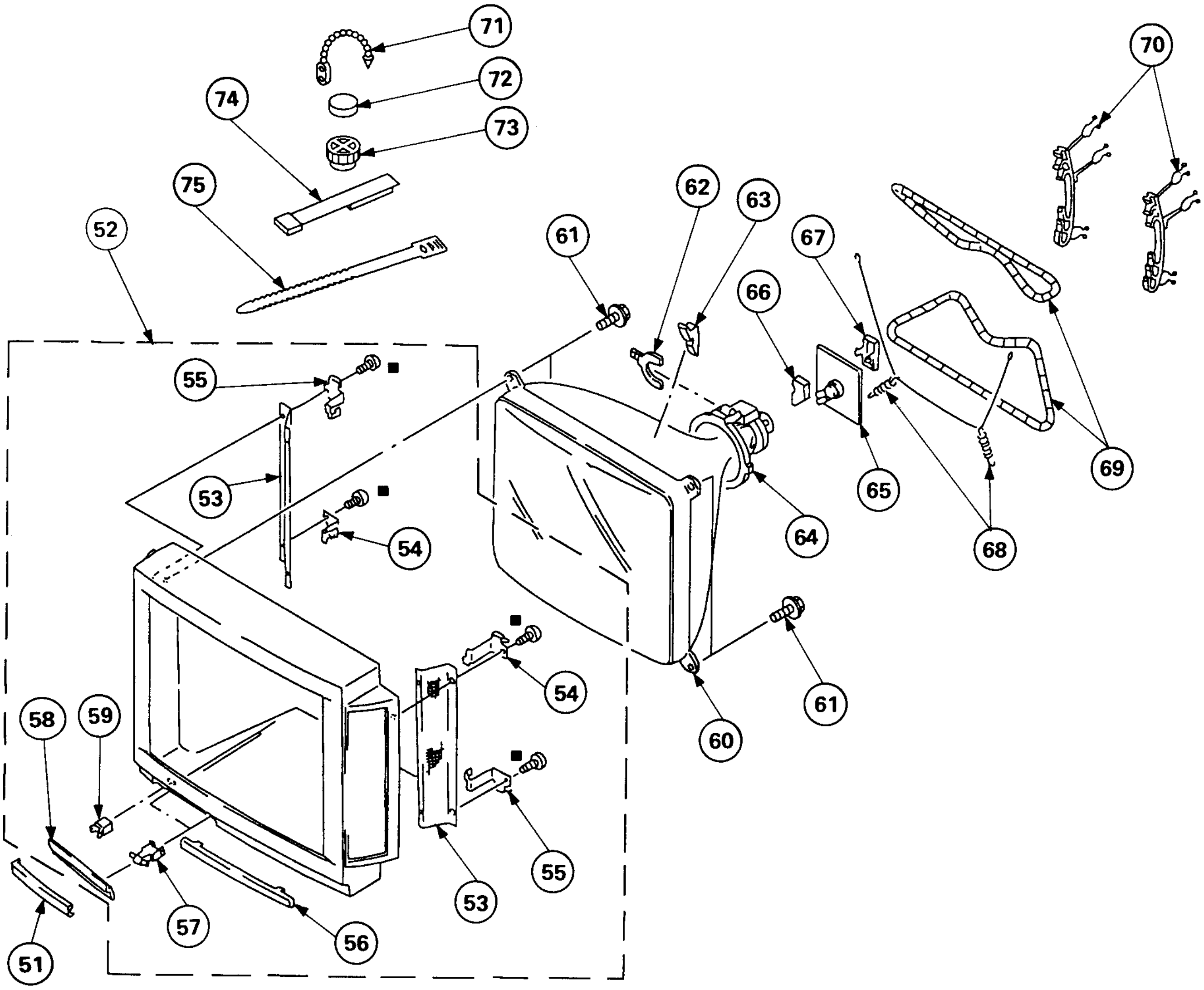


The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-391-11	H1 BOARD	
2	*1-638-392-11	H2 BOARD	
3	4-031-044-01	BUTTON, POWER	
4	⚠.1-571-433-12	SWITCH, PUSH (AC POWER)	
5	*1-638-390-11	F BOARD	
6	4-200-757-01	COVER, POWER SWITCH	
7	*A-1642-035-A	D BOARD, COMPLETE	
8	⚠.1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	
9	*4-386-624-11	BRACKET, J	
10	*A-1651-018-A	J1 BOARD, COMPLETE	
11	4-200-014-01	BRACKET, TERMINAL	
12	*A-1645-013-A	V BOARD, COMPLETE	
13	*A-1621-042-A	B1 BOARD, COMPLETE	
14	4-386-618-01	RIVET, T TYPE	
15	*A-1632-022-A	A BOARD, COMPLETE	
16	⚠.1-465-301-11	TUNER, ET (UV-816(PLL))	
17	*4-031-056-01	BOARD (LEFT), BAFFLE	
18	*4-031-057-01	BOX (LEFT), SPEAKER	
19	⚠.4-389-201-03	HOLDER, AC CORD	
20	⚠.1-590-501-11	CORD, POWER (WITH NOISE FILTER	
21	X-4029-448-1	GRILLE ASSY, SPEAKER	
22	1-544-475-11	SPEAKER	
23	*4-031-054-01	BOARD (RIGHT), BAFFLE	
24	*4-031-055-01	BOX (RIGHT), SPEAKER	
25	4-031-059-01	COVER, REAR	
26	*A-1654-004-A	IFG BOARD, COMPLETE	
27	*3-646-071-00	HOLDER, WIRE	

6-2. PICTURE TUBE (KV-A2121D)

■ : BVTP4x16 7-685-663-79

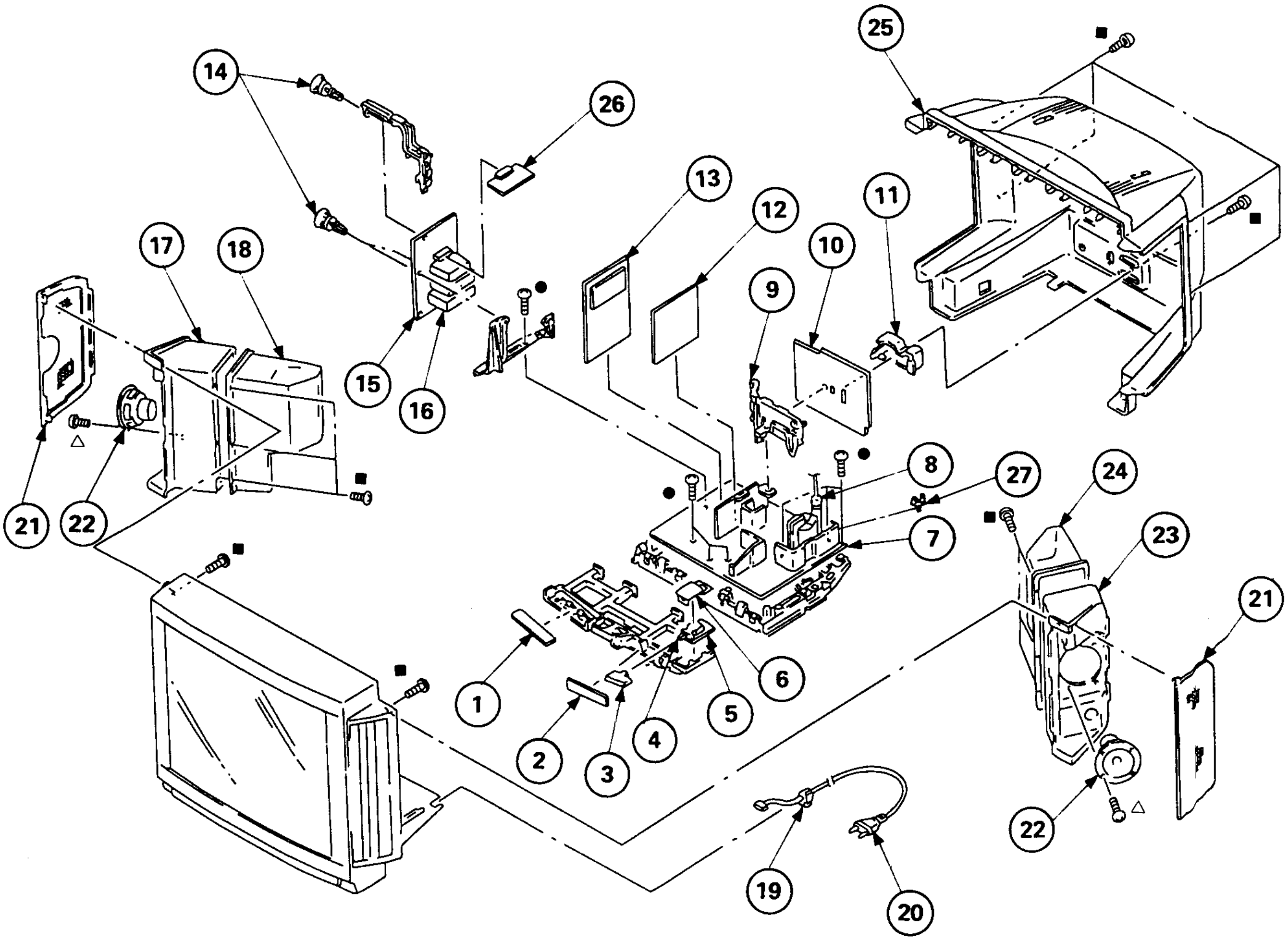


The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-031-050-01	ORNAMENT, DOOR	
52	X-4029-432-1	CABINET ASSY (WITH BEZEL ASSY)	53~59
53	4-031-047-01	GRILLE, FRONT	
54	4-031-045-01	BRACKET (A), SPEAKER	
55	4-031-046-01	BRACKET (B), SPEAKER	
56	4-031-051-01	WINDOW, ORNAMENTAL	
57	3-703-035-11	SHAFT, LID	
58	4-031-049-01	DOOR	
59	4-392-036-01	CATCHER, PUSH	
60	⚠.8-738-758-05	PICTURE TUBE (A51JXH61X)	
61	4-036-189-01	SCREW (S), PT	
62	1-452-277-00	MAGNET, BMC	
63	3-704-495-01	SPACER, DY	
64	⚠.1-451-295-11	DEFLECTION YOKE (Y21PFA2)	
65	*A-1638-014-A	C BOARD, COMPLETE	
66	*4-379-167-01	COVER (MAIN), CV	
67	*4-379-160-01	COVER (REAR LID), CV	
68	4-200-433-01	SPRING, EXTENSION	
69	⚠.1-426-383-11	COIL, DEMAGNETIZATION	
70	*4-386-622-01	BAND, DGC	
71	4-308-870-00	CLIP, LEAD WIRE	
72	1-452-032-00	MAGNET, DISK; 10MM ϕ	
73	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
74	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
75	3-701-007-00	BAND, BINDING	

6-3. CHASSIS (KV-A2521D/A2921D)

● : BVTP3x12 7-685-648-79
■ : BVTP4x16 7-685-663-79
△ : BVTP4x12 7-685-661-79

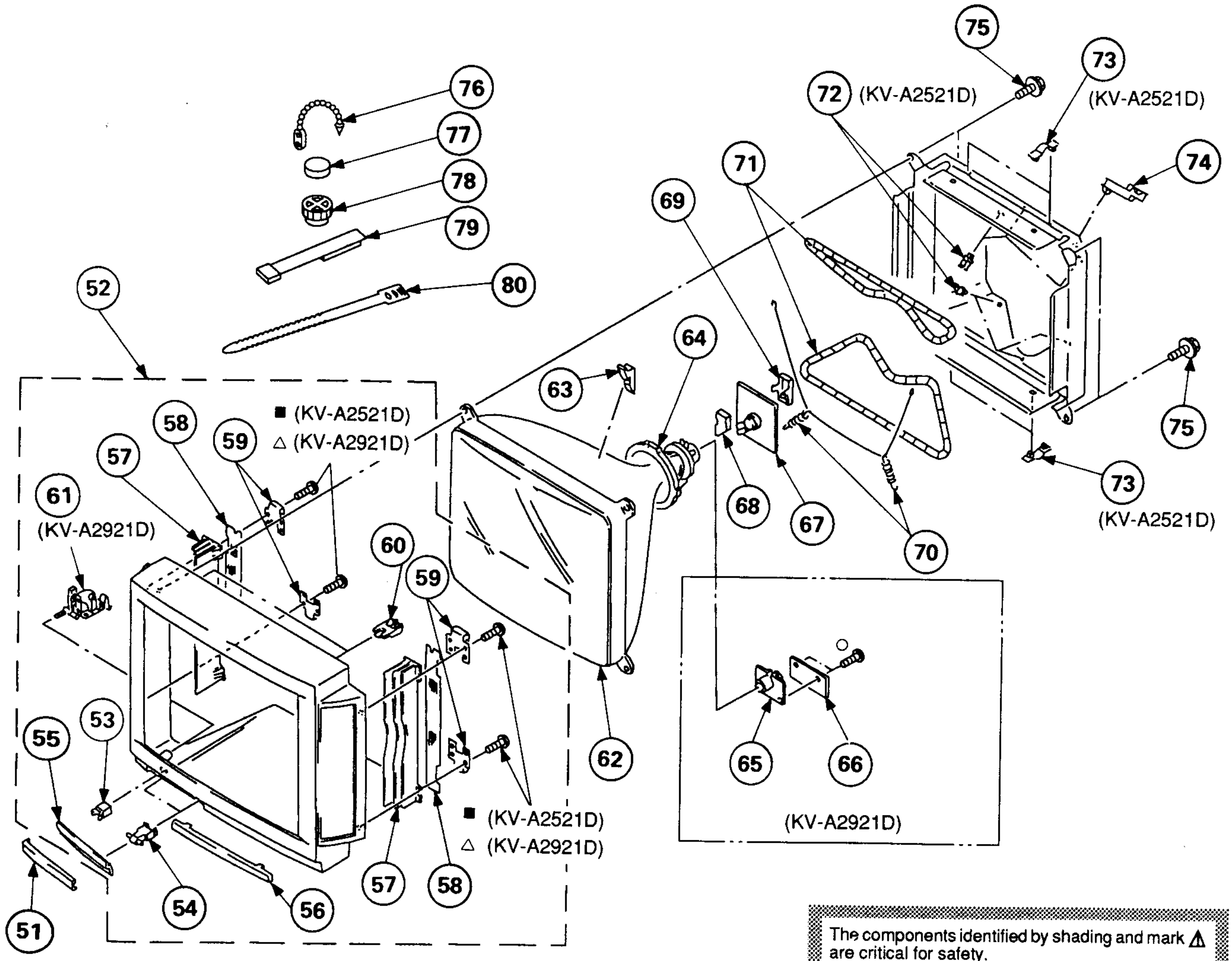


The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-391-11	H1 BOARD	
2	*1-638-392-11	H2 BOARD	
3	4-031-044-01	BUTTON, POWER	
4	⚠.1-571-433-12	SWITCH, PUSH (AC POWER)	
5	*1-638-390-11	F BOARD	
6	4-200-757-01	COVER, POWER SWITCH	
7	*A-1642-031-A	D BOARD, COMPLETE (KV-A2521D)	
	*A-1642-032-A	D BOARD, COMPLETE (KV-A2921D)	
8	⚠.1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	
9	*4-386-624-11	BRACKET, J	
10	*A-1651-018-A	J1 BOARD, COMPLETE (KV-A2521D)	
	*A-1651-020-A	J1 BOARD, COMPLETE (KV-A2921D)	
11	4-200-014-01	BRACKET, TERMINAL	
12	*A-1645-013-A	V BOARD, COMPLETE	
13	*A-1621-030-A	B1 BOARD, COMPLETE (KV-A2521D)	
	*A-1621-031-A	B1 BOARD, COMPLETE (KV-A2921D)	
14	4-386-618-01	RIVET, T TYPE	
15	*A-1632-022-A	A BOARD, COMPLETE	
16	⚠.1-465-301-11	TUNER, ET (UV-816(PLL))	
17	*4-031-095-01	BOARD (LEFT), BAFFLE	
18	*4-031-102-01	BOX (LEFT), SPEAKER	
19	⚠.4-389-201-03	HOLDER, AC CORD	
20	⚠.1-590-501-11	CORD, POWER (WITH NOISE FILTER	
21	X-4029-440-1	GRILLE ASSY, SPEAKER	
22	1-544-475-11	SPEAKER	
23	*4-031-094-01	BOARD (RIGHT), BAFFLE	
24	*4-031-101-01	BOX (RIGHT), SPEAKER	
25	4-031-100-01	COVER, REAR (KV-A2521D)	
	4-032-133-01	COVER, REAR (KV-A2921D)	
26	*A-1654-004-A	IFG BOARD, COMPLETE	
27	*3-646-071-00	HOLDER, WIRE	

6-4. PICTURE TUBE (KV-A2521D/A2921D)

■: BVTP4x16 7-685-663-79
△: BVTP4x12 7-685-661-79
○: BVTP3x8 7-685-646-79



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-031-050-01	ORNAMENT, DOOR (KV-A2521D)	
	4-032-135-01	ORNAMENT, DOOR (KV-A2921D)	
52	X-4029-439-1	CABINET ASSY (WITH BEZEL ASSY)	53~60 (KV-A2521D)
	X-4029-713-1	CABINET ASSY (WITH BEZEL ASSY)	53~61 (KV-A2921D)
53	4-392-036-01	CATCHER, PUSH	
54	3-703-035-11	SHAFT, LID	
55	4-031-049-01	DOOR (KV-A2521D)	
	4-032-134-01	DOOR (KV-A2921D)	
56	4-031-097-01	PLATE, ORNAMENTAL (KV-A2521D)	
	4-032-203-01	WINDOW, ORNAMENTAL (KV-A2921D)	
57	4-031-098-01	FIN, ACOUSTIC (KV-A2521D)	
	4-032-201-01	FIN, ACOUSTIC (KV-A2921D)	
58	4-031-090-01	GRILLE, FRONT (KV-A2521D)	
	4-032-204-01	GRILLE, FRONT (KV-A2921D)	
59	4-031-088-01	BRACKET, SPEAKER	
60	4-382-745-01	HOLDER, RC	
61	X-4029-878-1	DAMPER ASSY (KV-A2921D)	
62	⚠.8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-A2521D)	
	⚠.8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-A2921D)	
63	3-704-495-01	SPACER, DY	
64	⚠.1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-A2521D)	
	⚠.1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-A2921D)	
65	⚠.1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308)	(KV-A2921D)
66	*1-634-193-11	VM BOARD (KV-A2921D)	
67	*A-1638-011-A	C BOARD, COMPLETE (KV-A2521D)	
	*A-1638-013-A	C BOARD, COMPLETE (KV-A2921D)	
68	*4-379-167-01	COVER (MAIN), CV	
69	*4-379-160-01	COVER (REAR LID), CV	
70	4-303-774-99	SPRING (KV-A2521D)	
	4-369-318-00	SPRING, TENSION (KV-A2921D)	
71	⚠.1-460-091-11	COIL, DEGAUSS (KV-A2521D)	
	⚠.1-426-535-11	COIL, DEGAUSSING (KV-A2921D)	
72	4-034-296-01	HOLDER, DGC (KV-A2521D)	
73	*4-385-916-01	HOLDER (D) (KV-A2521D)	
74	*4-387-284-01	HOLDER, LEAD	
75	4-036-188-01	SCREW (M), PT	
76	4-308-870-00	CLIP, LEAD WIRE	
77	1-452-032-00	MAGNET, DISK; 10MM ϕ	
78	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
79	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
80	3-701-007-00	BAND, BINDING	

SECTION 7
ELECTRICAL PARTS LIST

B1

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF: µF, PF: µµF

COILS
- MMH: mH, UH: µH

RESISTORS
- All resistors are in ohms
- F: nonflammable

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1621-042-A	B1 BOARD, COMPLETE (KV-A2121D) ******************			
	*A-1621-030-A	B1 BOARD, COMPLETE (KV-A2521D) ******************			
	*A-1621-031-A	B1 BOARD, COMPLETE (KV-A2921D) ******************			
		<CONNECTOR>			
B31	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
B32	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
B33	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
B72	*1-568-881-51	PIN, CONNECTOR 6P			
B73	*1-568-878-51	PIN, CONNECTOR 3P			
		<CAPACITOR>			
C301	1-137-031-11	FILM	0.22MF	10%	100V
C302	1-137-031-11	FILM	0.22MF	10%	100V
C303	1-124-122-11	ELECT	100MF	20%	50V
C304	1-137-031-11	FILM	0.22MF	10%	100V
C305	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C306	1-124-902-00	ELECT	0.47MF	20%	50V
C307	1-124-902-00	ELECT	0.47MF	20%	50V
C308	1-124-902-00	ELECT	0.47MF	20%	50V
C309	1-124-902-00	ELECT	0.47MF	20%	50V
C310	1-137-098-11	FILM	0.1MF	10%	100V
C311	1-137-098-11	FILM	0.1MF	10%	100V
C312	1-124-902-00	ELECT	0.47MF	20%	50V
C313	1-124-902-00	ELECT	0.47MF	20%	50V
C314	1-124-902-00	ELECT	0.47MF	20%	50V
C315	1-124-903-11	ELECT	1MF	20%	50V
C316	1-124-927-11	ELECT	4.7MF	20%	50V
C317	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C318	1-124-927-11	ELECT	4.7MF	20%	50V
C319	1-124-927-11	ELECT	4.7MF	20%	50V
C320	1-124-910-11	ELECT	47MF	20%	50V
C321	1-137-027-11	FILM	0.82MF	10%	63V
C322	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C323	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C324	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C325	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C326	1-124-910-11	ELECT	47MF	20%	50V
C327	1-124-910-11	ELECT	47MF	20%	50V
C328	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C329	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C330	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C331	1-137-098-11	FILM	0.1MF	10%	100V
C332	1-137-098-11	FILM	0.1MF	10%	100V
C333	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C335	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C337	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C338	1-137-102-11	FILM	0.022MF	10%	250V
C339	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C340	1-126-103-11	ELECT	470MF	20%	16V
C341	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C342	1-124-903-11	ELECT	1MF	20%	50V
C343	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C344	1-124-903-11	ELECT	1MF	20%	50V
C345	1-137-094-11	FILM	0.047MF	10%	100V
C346	1-137-033-11	FILM	0.33MF	10%	100V
C347	1-137-098-11	FILM	0.1MF	10%	100V
C348	1-137-102-11	FILM	0.022MF	10%	250V
C349	1-137-102-11	FILM	0.022MF	10%	250V
C350	1-124-902-00	ELECT	0.47MF	20%	50V
C351	1-137-102-11	FILM	0.022MF	10%	250V
C352	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C353	1-126-101-11	ELECT	100MF	20%	16V
C354	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C356	1-126-101-11	ELECT	100MF	20%	16V
C357	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C358	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C360	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C361	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C363	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C371	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C372	1-124-477-11	ELECT	47MF	20%	16V
C373	1-124-477-11	ELECT	47MF	20%	16V
C374	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C375	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C376	1-124-034-51	ELECT	33MF	20%	16V
C377	1-124-119-00	ELECT	330MF	20%	16V
C378	1-124-034-51	ELECT	33MF	20%	16V
C379	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C380	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C381	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C382	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C383	1-163-197-00	CERAMIC CHIP	470PF	5%	50V
C384	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C385	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C386	1-163-377-11	CERAMIC CHIP	100PF	5%	50V
C387	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C388	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C389	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C390	1-124-907-11	ELECT	10MF	20%	50V
C391	1-124-907-11	ELECT	10MF	20%	50V
C392	1-124-907-11	ELECT	10MF	20%	50V
C393	1-126-101-11	ELECT	100MF	20%	16V
C394	1-126-101-11	ELECT	100MF	20%	16V
C395	1-126-101-11	ELECT	100MF	20%	16V
C396	1-126-101-11	ELECT	100MF	20%	16V
C397	1-137-028-11	FILM	1MF	10%	63V
C398	1-124-907-11	ELECT	10MF	20%	50V

B1

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C399	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1301	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1302	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1303	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1304	1-124-907-11	ELECT	10MF	20%	50V
C1305	1-126-101-11	ELECT	100MF	20%	16V
C1306	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1307	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1308	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1309	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1310	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1311	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1312	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1313	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1314	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C1315	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1316	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C1317	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1318	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1319	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1320	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1321	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1322	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1323	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1324	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C1325	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1326	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1327	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C1328	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1329	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C1330	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1331	1-164-187-11	CERAMIC CHIP	390PF	2%	50V
C1333	1-126-101-11	ELECT	100MF	20%	16V

<TRIMMER>

CT301	1-141-418-11	CAP, ADJ
CT302	1-141-418-11	CAP, ADJ

<DIODE>

D301	8-719-951-22	DIODE INM10
D304	8-719-989-26	DIODE DAN212K
D305	8-719-989-26	DIODE DAN212K
D307	8-719-106-62	DIODE RD11M-B2
D308	8-719-989-26	DIODE DAN212K
D309	8-719-989-26	DIODE DAN212K
D310	8-719-106-62	DIODE RD11M-B2
D311	8-719-106-62	DIODE RD11M-B2
D312	8-719-106-62	DIODE RD11M-B2
D314	8-719-800-76	DIODE 1SS226
D318	8-719-800-76	DIODE 1SS226
D319	8-719-800-76	DIODE 1SS226
D320	8-719-800-76	DIODE 1SS226
D321	8-719-105-91	DIODE RD5.6M-B2
D322	8-719-400-18	DIODE MA152WK
D330	8-719-989-26	DIODE DAN212K
D331	8-719-914-44	DIODE DAP202K
D333	8-719-951-22	DIODE INM10
D336	8-719-400-18	DIODE MA152WK
D340	8-719-800-76	DIODE 1SS226
D341	8-719-989-26	DIODE DAN212K

REF.NO.	PART NO.	DESCRIPTION	REMARK

<DELAY LINE>

DL301	1-415-613-11	DELAY LINE, Y

<FILTER>

FL301	1-236-620-11	FILTER, LOW PASS
FL302	1-236-620-11	FILTER, LOW PASS
FL303	1-236-620-11	FILTER, LOW PASS
FL305	1-236-164-11	ENCAPSULATED COMPONENT

<IC>

IC301	8-759-517-43	IC TDA4580-V7
IC302	8-759-980-60	IC TDA8442N3
IC303	8-759-510-48	IC TDA4660T
IC304	8-759-510-47	IC TDA4650WP
IC305	8-759-144-84	IC UPC24M05HF
IC306	8-759-510-50	IC HCF4052BM
IC308	8-752-006-12	IC CX20061
IC310	8-752-337-07	IC CXD2011Q
IC311	8-759-996-49	IC MB40968PF
IC312	8-752-338-45	IC CXK1202Q
IC313	8-752-338-45	IC CXK1202Q
IC315	8-752-334-55	IC CXD1175AM

<COIL>

L301	1-408-405-00	INDUCTOR	4.7UH
L303	1-404-554-11	COIL	
L304	1-408-405-00	INDUCTOR	4.7UH
L305	1-408-402-00	INDUCTOR	2.7UH
L306	1-408-405-00	INDUCTOR	4.7UH
L308	1-404-495-00	COIL	
L309	1-408-415-00	INDUCTOR	33UH
L310	1-408-419-00	INDUCTOR	68UH
L312	1-404-495-00	COIL	
L313	1-404-554-11	COIL	
L314	1-408-409-00	INDUCTOR	10UH
L320	1-408-405-00	INDUCTOR	4.7UH
L321	1-408-405-00	INDUCTOR	4.7UH
L323	1-408-398-00	INDUCTOR	1.2UH
L325	1-408-405-00	INDUCTOR	4.7UH
L326	1-408-421-00	INDUCTOR	100UH
L327	1-408-402-00	INDUCTOR	2.7UH
L1301	1-408-425-00	INDUCTOR	220UH

<IC LINK>

PS301⚠	1-532-605-91	LINK, IC (ICP-N10) 0.4A

<TRANSISTOR>

Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q304	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q305	8-729-901-06	TRANSISTOR DTA144EK
Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q307	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q308	8-729-901-00	TRANSISTOR DTC124EK
Q310	8-729-901-00	TRANSISTOR DTC124EK
Q311	8-729-901-00	TRANSISTOR DTC124EK
Q320	8-729-120-28	TRANSISTOR 2SC1623-L5L6

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q321	8-729-216-22	TRANSISTOR 2SA1162-G	
Q322	8-729-216-22	TRANSISTOR 2SA1162-G	
Q323	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q324	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q327	8-729-216-22	TRANSISTOR 2SA1162-G	
Q328	8-729-216-22	TRANSISTOR 2SA1162-G	
Q329	8-729-216-22	TRANSISTOR 2SA1162-G	
Q330	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q331	8-729-216-22	TRANSISTOR 2SA1162-G	
Q332	8-729-216-22	TRANSISTOR 2SA1162-G	
Q333	8-729-901-00	TRANSISTOR DTC124EK	
Q334	8-729-901-00	TRANSISTOR DTC124EK	
Q335	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q336	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q337	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q338	8-729-216-22	TRANSISTOR 2SA1162-G	
Q339	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q340	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q341	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q342	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q343	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q344	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q345	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q346	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q347	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q348	8-729-901-00	TRANSISTOR DTC124EK	
Q350	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q352	8-729-216-22	TRANSISTOR 2SA1162-G	
Q353	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q354	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q355	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q356	8-729-216-22	TRANSISTOR 2SA1162-G	
Q357	8-729-216-22	TRANSISTOR 2SA1162-G	
Q358	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q359	8-729-216-22	TRANSISTOR 2SA1162-G	
Q360	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q361	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q362	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q363	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q364	8-729-216-22	TRANSISTOR 2SA1162-G	
Q365	8-729-216-22	TRANSISTOR 2SA1162-G	
Q366	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q367	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q368	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q369	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q370	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q371	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q372	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q373	8-729-901-00	TRANSISTOR DTC124EK	
Q1301	8-729-901-00	TRANSISTOR DTC124EK	
Q1302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1303	8-729-901-00	TRANSISTOR DTC124EK	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR302	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR304	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR305	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR391	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R301	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R302	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R303	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R304	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R305	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R306	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R307	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R309	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R310	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R311	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R312	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R313	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R314	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R316	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R317	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R318	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R319	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R320	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
R321	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R322	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R323	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R324	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R325	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R326	1-216-311-00	METAL GLAZE 6.8 5% 1/10W	
R327	1-216-311-00	METAL GLAZE 6.8 5% 1/10W	
R328	1-216-311-00	METAL GLAZE 6.8 5% 1/10W	
R329	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R330	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R331	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R332	1-216-182-00	METAL GLAZE 220 5% 1/8W	
R333	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R335	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R336	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R337	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R338	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R339	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R340	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R341	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R342	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R343	1-216-033-00	METAL GLAZE 220 5% 1/10W	(KV-A2121D)
	1-216-035-00	METAL GLAZE 270 5% 1/10W	(KV-A2521D)
	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	(KV-A2921D)
R344	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R345	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R346	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R347	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R348	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R349	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R350	1-216-184-00	METAL GLAZE 270 5% 1/8W	
R351	1-216-184-00	METAL GLAZE 270 5% 1/8W	
R352	1-216-070-00	METAL GLAZE 7.5K 5% 1/10W	
R353	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R354	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R355	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R357	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R358	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R359	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R361	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R362	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R363	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R364	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R365	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R366	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R367	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R368	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	

B1

REF.NO.	PART NO.	DESCRIPTION				REMARK
R369	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R370	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R371	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R372	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R373	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R374	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R375	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R376	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R377	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R378	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R379	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R380	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R381	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R382	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R383	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R384	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R385	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R386	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R387	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R388	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R389	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R390	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R391	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R392	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R393	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R394	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R395	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R396	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R397	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R398	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R399	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1301	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1302	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1303	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1305	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1308	1-216-295-00	METAL GLAZE	0	5%	1/10W	(KV-A2121D,A2521D)
	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-A2921D)
R1309	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1310	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1311	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1312	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1313	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1314	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1315	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1316	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1319	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1320	1-216-641-11	METAL CHIP	390	0.50%	1/10W	
R1321	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1322	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1323	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R1324	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1325	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1326	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1327	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1328	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1329	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1330	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1331	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1332	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1333	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1334	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1335	1-216-043-00	METAL GLAZE	560	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1336	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1337	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1338	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1339	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1340	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1341	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1342	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1343	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1344	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1345	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1346	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1347	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1348	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1349	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1350	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1351	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1352	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1353	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1354	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1355	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1356	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1357	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1358	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1360	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R1361	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1362	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1363	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1364	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1365	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1366	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1367	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1368	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1369	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1370	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1371	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1372	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1373	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1374	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R1375	1-216-208-00	METAL GLAZE	2.7K	5%	1/8W	
R1376	1-216-087-11	METAL GLAZE	39K	5%	1/10W	
R1377	1-216-087-11	METAL GLAZE	39K	5%	1/10W	
R1378	1-216-087-11	METAL GLAZE	39K	5%	1/10W	
R1379	1-216-087-11	METAL GLAZE	39K	5%	1/10W	
R1380	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1381	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1382	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1383	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1384	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1385	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1386	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1387	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1388	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1389	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1390	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1391	1-216-208-00	METAL GLAZE	2.7K	5%	1/8W	
R1392	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1393	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1395	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1396	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1397	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1398	1-216-001-00	METAL GLAZE	10	5%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

B1 **F** **A**

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1399	1-216-029-00	METAL GLAZE 150 5% 1/10W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV301	1-238-012-11	RES, ADJ, CARBON 1K	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X301	1-567-307-11	OSCILLATOR, CRYSTAL	
X302	1-567-131-00	OSCILLATOR, CRYSTAL	

****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-638-390-11	F BOARD *******	
	*4-341-752-01	EYELET	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F61	*1-580-844-11	PIN, CONNECTOR (POWER)	
F62	*1-580-844-11	PIN, CONNECTOR (POWER)	

<FUSE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F1601⚠	1-576-231-21	FUSE (H.B.C.) 4A/250V	
	1-533-230-11	HOLDER, FUSE; F1601	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S1701⚠	1-571-433-12	SWITCH, PUSH (AC POWER)	

****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1632-022-A	A BOARD, COMPLETE *****************	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
A11	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
A12	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
A13	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P	
A16	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
A17	*1-564-886-11	PLUG, CONNECTOR 9P	
A19	*1-564-881-11	PLUG, CONNECTOR 4P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C101	1-126-233-11	ELECT 22MF 20% 50V	
C102	1-126-103-11	ELECT 470MF 20% 16V	
C104	1-124-910-11	ELECT 47MF 20% 50V	
C106	1-126-233-11	ELECT 22MF 20% 50V	
C108	1-136-165-00	FILM 0.1MF 5% 50V	
C109	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C111	1-124-925-11	ELECT 2.2MF 20% 50V	
C115	1-124-925-11	ELECT 2.2MF 20% 50V	
C127	1-124-122-11	ELECT 100MF 20% 50V	
C128	1-124-910-11	ELECT 47MF 20% 50V	
C129	1-124-910-11	ELECT 47MF 20% 50V	
C138	1-136-165-00	FILM 0.1MF 5% 50V	
C171	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C172	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C177	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C181	1-101-004-00	CERAMIC 0.01MF 50V	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC103	8-759-979-62	IC PCF8574	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L100	1-410-683-31	INDUCTOR 560UH	
L101	1-408-225-00	INDUCTOR 3.3UH	
L102	1-408-413-00	INDUCTOR 22UH	
L107	1-408-397-00	INDUCTOR 1UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q113	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q114	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q115	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q116	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q125	8-729-900-89	TRANSISTOR DTC144ES	
Q126	8-729-901-06	TRANSISTOR DTA144EK	
Q181	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR230	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR252	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR253	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR255	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR256	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR257	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR258	1-216-296-00	METAL GLAZE 0 5% 1/8W	
R101	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R105	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R107	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R108	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R110	1-249-429-11	CARBON 10K 5% 1/4W	
R111	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R116	1-216-023-00	METAL GLAZE 82 5% 1/10W	
R118	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R128	1-216-027-00	METAL GLAZE 120 5% 1/10W	
R129	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R130	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R157	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R158	1-249-409-11	CARBON 220 5% 1/4W	
R159	1-249-409-11	CARBON 220 5% 1/4W	
R161	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R162	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R163	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R164	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R165	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R167	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R168	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R169	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R181	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R182	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R193	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R194	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R195	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R196	1-216-113-00	METAL GLAZE 470K 5% 1/10W	

<TUNER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
TU101⚠	1-465-301-11	TUNER, ET (UV-816(PLL))	

A C

<IF BLOCK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
VIF101	1-466-154-11	IF BLOCK (IFG-389S)	

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*A-1638-014-A C BOARD, COMPLETE (KV-A2121D)
****
*A-1638-011-A C BOARD, COMPLETE (KV-A2521D)
****
*A-1638-013-A C BOARD, COMPLETE (KV-A2921D)
****

*4-379-160-01 COVER (REAR LID), CV
*4-379-167-01 COVER (MAIN), CV

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C71	*1-506-371-00	PIN, CONNECTOR 2P	
C72	*1-568-881-51	PIN, CONNECTOR 6P	
C81	*1-568-878-51	PIN, CONNECTOR 3P	
C82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C703	1-102-980-00	CERAMIC	270PF	5%	50V	
C704	1-102-116-00	CERAMIC	680PF	10%	50V	
C705	1-102-976-00	CERAMIC	180PF	5%	50V	(KV-A2121D)
	1-102-978-00	CERAMIC	220PF	5%	50V	(KV-A2521D,A2921D)
C706	1-102-116-00	CERAMIC	680PF	10%	50V	
C707	1-162-116-00	CERAMIC	680PF	10%	2KV	
C708	1-162-114-00	CERAMIC	0.0047MF		2KV	
C709	1-102-116-00	CERAMIC	680PF	10%	50V	
C710	1-123-947-00	ELECT	10MF	20%	250V	
C711	1-101-880-00	CERAMIC	47PF	5%	50V	
C712	1-102-980-00	CERAMIC	270PF	5%	50V	
C714	1-124-360-00	ELECT	1000MF	20%	16V	
C716	1-162-622-11	CERAMIC	330PF	10%	400V	
C717	1-102-114-00	CERAMIC	470PF	10%	50V	
C718	1-102-114-00	CERAMIC	470PF	10%	50V	
C719	1-102-114-00	CERAMIC	470PF	10%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D701	8-719-110-14	DIODE RD9.1ES-B3	
D702	8-719-911-19	DIODE 1SS119	
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-911-19	DIODE 1SS119	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-911-19	DIODE 1SS119	
D707	8-719-911-19	DIODE 1SS119	
D708	8-719-911-19	DIODE 1SS119	
D709	8-719-911-19	DIODE 1SS119	
D710	8-719-911-19	DIODE 1SS119	
D711	8-719-300-33	DIODE RU-3AM	
D713	8-719-911-19	DIODE 1SS119	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J701	1-526-990-11	SOCKET, PICTURE TUBE	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L704	1-408-415-00	INDUCTOR	33UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q703	8-729-906-70	TRANSISTOR BF871	
Q704	8-729-200-17	TRANSISTOR 2SA1091-O	
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q706	8-729-906-70	TRANSISTOR BF871	
Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q709	8-729-906-70	TRANSISTOR BF871	
Q710	8-729-200-17	TRANSISTOR 2SA1091-O	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R704	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R705	1-202-824-00	SOLID	3.3K	10%	1/2W	
R706	1-249-409-11	CARBON	220	5%	1/4W	
R707	1-247-822-11	CARBON	430	5%	1/4W	(KV-A2121D)
	1-249-412-11	CARBON	390	5%	1/4W	(KV-A2521D,A2921D)
R708	1-249-401-11	CARBON	47	5%	1/4W	
R709	1-202-844-00	SOLID	330K	10%	1/2W	
R710	1-215-469-00	METAL	100K	1%	1/4W	(KV-A2121D)
	1-215-465-00	METAL	68K	1%	1/4W	(KV-A2521D,A2921D)
R711	1-249-426-11	CARBON	5.6K	5%	1/4W	
R712	1-249-417-11	CARBON	1K	5%	1/4W	
R713	1-215-474-00	METAL	160K	1%	1/4W	(KV-A2121D)
	1-215-471-00	METAL	120K	1%	1/4W	(KV-A2521D,A2921D)
R714	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R715	1-202-824-00	SOLID	3.3K	10%	1/2W	
R716	1-249-409-11	CARBON	220	5%	1/4W	
R717	1-249-415-11	CARBON	680	5%	1/4W	
R718	1-202-814-11	SOLID	33K	10%	1/2W	
R719	1-249-401-11	CARBON	47	5%	1/4W	
R720	1-249-423-11	CARBON	3.3K	5%	1/4W	
R721	1-202-842-11	SOLID	220K	10%	1/2W	
R722	1-202-848-00	SOLID	680K	10%	1/2W	
R723	1-249-417-11	CARBON	1K	5%	1/4W	
R724	1-202-846-00	SOLID	470K	10%	1/2W	
R725	1-202-838-00	SOLID	100K	10%	1/2W	
R726	1-202-824-00	SOLID	3.3K	10%	1/2W	
R727	1-249-409-11	CARBON	220	5%	1/4W	
R728	1-216-347-11	METAL OXIDE	0.68	5%	1W	F
R729	1-249-416-11	CARBON	820	5%	1/4W	
R730	1-249-401-11	CARBON	47	5%	1/4W	
R731	1-249-423-11	CARBON	3.3K	5%	1/4W	
R732	1-249-415-11	CARBON	680	5%	1/4W	
R733	1-249-415-11	CARBON	680	5%	1/4W	
R734	1-249-405-11	CARBON	100	5%	1/4W	
R735	1-215-493-00	METAL	1M	1%	1/4W	
R736	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R737	1-215-483-00	METAL	390K	1%	1/4W	(KV-A2121D)
	1-215-491-00	METAL	820K	1%	1/4W	(KV-A2521D)
	1-215-485-00	METAL	470K	1%	1/4W	(KV-A2921D)
R739	1-249-417-11	CARBON	1K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

C D

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M	
RV703	1-237-749-11	RES, ADJ, CARBON 2200	
RV704	1-237-749-11	RES, ADJ, CARBON 2200	

****

*A-1642-035-A D BOARD, COMPLETE (KV-A2121D)
****
*A-1642-031-A D BOARD, COMPLETE (KV-A2521D)
****
*A-1642-032-A D BOARD, COMPLETE (KV-A2921D)
****

PART NO.	DESCRIPTION
4-200-001-01	HOLDER, IC
4-201-023-01	SPACER, INSULATING
*4-341-751-01	EYELET
*4-341-752-01	EYELET
*4-368-683-01	SPRING

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C002	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C003	1-124-925-11	ELECT	2.2MF	20%	50V
C004	1-124-120-11	ELECT	220MF	20%	16V
C005	1-124-903-11	ELECT	1MF	20%	50V
C008	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C009	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C010	1-124-120-11	ELECT	220MF	20%	16V
C011	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C013	1-137-098-11	FILM	0.1MF	10%	100V
C014	1-137-098-11	FILM	0.1MF	10%	100V
C015	1-124-902-00	ELECT	0.47MF	20%	50V
C016	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C017	1-137-098-11	FILM	0.1MF	10%	100V
C018	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C019	1-137-094-11	FILM	0.047MF	10%	100V
C021	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C023	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C024	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C027	1-124-910-11	ELECT	47MF	20%	50V
C030	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C031	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C032	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C033	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C034	1-124-907-11	ELECT	10MF	20%	50V
C251	1-124-903-11	ELECT	1MF	20%	50V
C252	1-126-233-11	ELECT	22MF	20%	50V
C253	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C254	1-137-098-11	FILM	0.1MF	10%	100V
C255	1-124-636-00	ELECT	3300MF	20%	25V
C261	1-124-903-11	ELECT	1MF	20%	50V
C262	1-126-233-11	ELECT	22MF	20%	50V
C263	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C264	1-137-098-11	FILM	0.1MF	10%	100V
C265	1-124-564-11	ELECT	4700MF	20%	25V
C270	1-137-035-11	FILM	0.47MF	10%	100V
C274	1-137-035-11	FILM	0.47MF	10%	100V
C501	1-124-927-11	ELECT	4.7MF	20%	50V
C502	1-124-927-11	ELECT	4.7MF	20%	50V
C503	1-137-049-11	FILM	0.015MF	10%	400V
C504	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C505	1-108-794-11	MYLAR	0.0015MF	5%	50V
C506	1-137-102-11	FILM	0.022MF	10%	250V
C507	1-137-033-11	FILM	0.33MF	10%	100V
C508	1-137-102-11	FILM	0.022MF	10%	250V
C509	1-137-098-11	FILM	0.1MF	10%	100V
C510	1-161-959-00	CERAMIC	22PF	10%	500V
C511	1-108-686-11	MYLAR	0.0033MF	10%	100V
C512	1-137-098-11	FILM	0.1MF	10%	100V
C513	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C514	1-137-031-11	FILM	0.22MF	10%	100V
C515	1-124-903-11	ELECT	1MF	20%	50V
C516	1-108-680-11	MYLAR	0.001MF	10%	100V
C517	1-124-252-00	ELECT	0.33MF	20%	50V
C518	1-124-902-00	ELECT	0.47MF	20%	50V
C519	1-136-173-00	FILM	0.47MF	5%	50V
					(KV-A2121D,A2521D)
	1-136-171-00	FILM	0.33MF	5%	50V
					(KV-A2921D)
C520	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C521	1-137-098-11	FILM	0.1MF	10%	100V
C522	1-124-122-11	ELECT	100MF	20%	50V
C523	1-108-680-11	MYLAR	0.001MF	10%	100V
C524	1-108-798-11	MYLAR	0.0033MF	5%	50V
C525	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C526	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
					(KV-A2121D,A2521D)
	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
					(KV-A2921D)
C527	1-137-098-11	FILM	0.1MF	10%	100V
C531	1-124-190-00	ELECT	680MF	10%	25V
C532	1-124-122-11	ELECT	100MF	20%	50V
C533	1-137-096-11	FILM	0.068MF	10%	100V
C534	1-124-120-11	ELECT	220MF	20%	16V
C536	1-131-363-00	TANTALUM	4.7MF	10%	16V
					(KV-A2121D)
	1-131-365-00	TANTALUM	10MF	10%	16V
					(KV-A2521D,A2921D)
C537	1-124-903-11	ELECT	1MF	20%	50V
C538	1-108-680-11	MYLAR	0.001MF	10%	100V
C539	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C540	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C592	1-124-122-11	ELECT	100MF	20%	50V
C593	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C601 ⚠.	1-161-964-61	CERAMIC	0.0047MF		250V
C602 ⚠.	1-161-964-61	CERAMIC	0.0047MF		250V
C603 ⚠.	1-161-964-61	CERAMIC	0.0047MF		250V
C604 ⚠.	1-125-318-11	ELECT(BLOCK)	220MF	20%	400V
C605	1-124-484-11	ELECT	220MF	20%	35V
C606	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C607	1-137-028-11	FILM	1MF	10%	63V
C608	1-124-927-11	ELECT	4.7MF	20%	50V
C611	1-124-910-11	ELECT	47MF	20%	50V
C612	1-108-680-11	MYLAR	0.001MF	10%	100V
C613	1-136-539-11	FILM	0.0022MF	3%	2KV
C614	1-102-030-00	CERAMIC	330PF	10%	500V
C615	1-128-142-11	ELECT	1500MF	20%	25V
C616	1-102-030-00	CERAMIC	330PF	10%	500V
C617	1-124-120-11	ELECT	220MF	20%	25V
					(KV-A2121D)
	1-124-122-11	ELECT	100MF	20%	50V
					(KV-A2521D, A2921D)
C618	1-162-115-00	CERAMIC	330PF	10%	2KV
C619	1-128-320-11	ELECT	2200MF	20%	16V
C620	1-137-028-11	FILM	1MF	10%	63V
					(KV-A2121D)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
C620	1-136-173-00	FILM	0.47MF	5%	50V	(KV-A2521D,A2921D)
C621	1-124-347-00	ELECT	100MF	20%	160V	
C622	1-128-320-11	ELECT	2200MF	20%	16V	
C623	1-124-910-11	ELECT	47MF	20%	50V	
C624	1-124-122-11	ELECT	100MF	20%	50V	
C625	1-124-360-00	ELECT	1000MF	20%	16V	
C626	1-124-907-11	ELECT	10MF	20%	50V	
C627	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C631	1-124-927-11	ELECT	4.7MF	20%	50V	
C632	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C633	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C801	1-126-105-11	ELECT	1000MF	20%	35V	
C802	1-102-030-00	CERAMIC	330PF	10%	500V	
C804	1-123-948-00	ELECT	22MF	20%	250V	
C805	1-162-114-00	CERAMIC	0.0047MF		2KV	
C806	1-137-098-11	FILM	0.1MF	10%	100V	
C807	1-106-395-00	MYLAR	0.15MF	10%	200V	
C810	1-123-024-21	ELECT	33MF		160V	
C811	1-136-111-00	FILM	1MF	5%	200V	(KV-A2121D)
	1-136-113-00	FILM	2MF	5%	200V	(KV-A2521D,A2921D)
C812	1-124-634-11	ELECT	1MF	20%	250V	
C813	1-102-212-00	CERAMIC	820PF	10%	500V	
C814	⚠.1-161-731-51	CERAMIC	0.001MF	10%	2KV	
C815	1-136-111-00	FILM	1MF	5%	200V	(KV-A2121D,A2521D)
	1-136-540-11	FILM	0.82MF	5%	200V	(KV-A2921D)
C817	⚠.1-136-549-11	FILM	0.0106MF	3%	1.4KV	(KV-A2121D)
	⚠.1-136-565-11	FILM	0.015MF	3%	1.4KV	(KV-A2521D)
	⚠.1-136-591-11	FILM	0.017MF	3%	1.4KV	(KV-A2921D)
C818	⚠.1-129-721-51	FILM	0.039MF	10%	630V	
C819	⚠.1-161-731-51	CERAMIC	0.001MF	10%	2KV	
C820	1-137-046-11	FILM	0.0082MF	10%	400V	
C821	⚠.1-162-116-51	CERAMIC	680PF	10%	2KV	(KV-A2121D,A2521D)
	⚠.1-162-134-51	CERAMIC	470PF	10%	2KV	(KV-A2921D)
C822	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C823	1-137-043-11	FILM	0.0047MF	10%	400V	
C824	1-102-212-00	CERAMIC	820PF	10%	500V	
C825	1-137-102-11	FILM	0.022MF	10%	250V	
C1601	⚠1-136-518-11	FILM	0.33MF	20%	300V	
C1602	⚠1-136-519-11	FILM	0.47MF	20%	300V	
C1603	⚠1-164-246-61	CERAMIC	0.0022MF	20%	400V	
C1605	⚠1-164-246-61	CERAMIC	0.0022MF	20%	400V	
C1607	⚠1-161-964-61	CERAMIC	0.0047MF		250V	

<FILTER>

REF.NO.	PART NO.	DESCRIPTION
CF001	1-577-364-11	VIBRATOR, CERAMIC
CF501	1-567-888-11	OSCILLATOR, CERAMIC

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1	*1-568-881-51	PIN, CONNECTOR 6P	
D2	*1-568-882-51	PIN, CONNECTOR 7P	
D11	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D12	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D18	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
D21	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D22	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D31	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D32	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D33	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
D41	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
D44	*1-568-881-51	PIN, CONNECTOR 6P	
D45	*1-568-881-51	PIN, CONNECTOR 6P	
D51	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
D62	*1-565-395-11	PIN, CONNECTOR 3P	
D65	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
D66	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
D82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
D83	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
D84	*1-580-798-11	CONNECTOR PIN (DY) 6P	
D88	*1-568-878-51	PIN, CONNECTOR 3P (KV-A2921D)	
D801	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D001	8-719-109-97	DIODE RD6.8ES-B2	
D002	8-719-109-97	DIODE RD6.8ES-B2	
D003	8-719-911-19	DIODE 1SS119	
D005	8-719-109-89	DIODE RD5.6ES-B2	
D006	8-719-982-24	DIODE MTZJ-33A	
D007	8-719-982-08	DIODE MTZJ-3.9B	
D009	8-719-109-89	DIODE RD5.6ES-B2	
D010	8-719-921-54	DIODE MTZJ-6.2B	
D011	8-719-921-54	DIODE MTZJ-6.2B	
D012	8-719-911-19	DIODE 1SS119	
D013	8-719-109-97	DIODE RD6.8ES-B2	
D271	8-719-110-31	DIODE RD12ES-B2 (KV-A2121D)	
	8-719-921-88	DIODE MTZJ-13B (KV-A2521D,A2921D)	
D272	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D504	8-719-911-55	DIODE U05G	
D506	8-719-800-76	DIODE 1SS226 (KV-A2121D,A2521D)	
D508	8-719-911-19	DIODE 1SS119	
D509	8-719-911-19	DIODE 1SS119 (KV-A2521D,A2921D)	
D511	8-719-911-55	DIODE U05G	
D512	8-719-911-55	DIODE U05G	
D513	8-719-010-34	DIODE UZ-4.7BSC	
D514	8-719-911-19	DIODE 1SS119 (KV-A2921D)	
D515	8-719-911-19	DIODE 1SS119 (KV-A2921D)	
D601	⚠.8-719-510-63	DIODE D4SB60L-F	
D602	8-719-300-33	DIODE RU-3AM	
D603	8-719-911-55	DIODE U05G	
D604	8-719-911-55	DIODE U05G	
D605	8-719-911-55	DIODE U05G	
D606	8-719-300-33	DIODE RU-3AM	
D607	8-719-300-33	DIODE RU-3AM	
D608	8-719-300-33	DIODE RU-3AM	
D609	8-719-982-24	DIODE MTZJ-33A	
D610	8-719-300-59	DIODE CTU-12S	
D611	8-719-900-26	DIODE ERD29-08J	
D612	8-719-300-59	DIODE CTU-12S	
D613	8-719-979-85	DIODE EGP20G	
D614	8-719-979-85	DIODE EGP20G	
D616	8-719-921-54	DIODE MTZJ-6.2B	
D617	8-719-911-19	DIODE 1SS119	
D618	8-719-109-89	DIODE RD5.6ES-B2	
D619	8-719-982-24	DIODE MTZJ-33A	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D620	8-719-800-76	DIODE 1SS226	
D621	8-719-982-24	DIODE MTZJ-33A	
D622	8-719-911-19	DIODE 1SS119	
D623	8-719-911-19	DIODE 1SS119	
D624	8-719-911-19	DIODE 1SS119	
D630	8-719-921-91	DIODE MTZJ-15A	
D801	8-719-300-33	DIODE RU-3AM	
D802	8-719-300-33	DIODE RU-3AM	
D803	8-719-976-64	DIODE RGP02-17	
D804	8-719-911-55	DIODE U05G	
D805	8-719-911-55	DIODE U05G	
D806	8-719-945-80	DIODE ERC06-15S	
D807	8-719-945-80	DIODE ERC06-15S (KV-A2521D,A2921D)	
D808	8-719-928-08	DIODE ERD28-08S (KV-A2121D)	
	8-719-900-26	DIODE ERD29-08J (KV-A2521D,A2921D)	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC001	8-759-047-60	IC SDA20560-A012	
IC002	8-759-000-47	IC MC14051BCP	
IC003	8-759-945-58	IC RC4558P	
IC005	8-759-748-56	IC SDA2546	
IC251	8-759-988-94	IC TDA2050	
	4-812-134-00	RIVET NYLON, 3.5; IC251	
IC261	8-759-988-94	IC TDA2050	
	4-812-134-00	RIVET NYLON, 3.5; IC261	
IC501	8-759-970-73	IC TEA2028B	
IC502	8-759-944-57	IC TDA8170	
IC601	8-759-988-95	IC TEA2260	
IC604	8-759-510-52	IC TEA7605	
IC608	8-759-929-62	IC LM7812CT	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L501	1-408-225-00	INDUCTOR 3.3UH	
L601	1-420-872-00	COIL, AIR CORE	
L602	1-410-396-41	FERRITE BEAD INDUCTOR	
L603	1-410-396-41	FERRITE BEAD INDUCTOR	
L604	1-410-671-31	INDUCTOR 47UH	
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)	
L606	1-412-529-11	INDUCTOR 22UH	
L607	1-410-671-31	INDUCTOR 47UH	
L801	1-459-087-00	COIL,HCC DUST CORE 3.9MMH (KV-A2921D)	
L803	1-459-104-00	COIL, WITH CORE	
L804	1-408-239-00	INDUCTOR 4.7MMH	
L805	⚠ 1-459-652-12	HLC (KV-A2121D)	
	⚠ 1-459-755-12	COIL, HORIZONTAL LINEARITY (KV-A2521D)	
	⚠ 1-459-907-22	COIL, HORIZONTAL LINEARITY (KV-A2921D)	
L806	1-459-115-00	COIL, DCC-H (KV-A2121D)	
	1-459-111-00	COIL, DRAM CORE (CDI) (KV-A2521D)	
	1-459-087-00	COIL,HCC DUST CORE 3.9MMH (KV-A2921D)	
L809	1-420-872-00	COIL, AIR CORE	
L810	⚠ 1-459-390-11	COIL (WITH CORE) (KV-A2121D)	
	⚠ 1-421-982-12	PMC (KV-A2521D)	
	⚠ 1-421-794-51	TRANSFORMER, FERRITE (PMT) (KV-A2921D)	

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
LF1601	⚠ 1-421-866-12	LFT	
LF1602	⚠ 1-421-776-21	LFT	
LF1603	⚠ 1-421-862-11	LFT	
T601	⚠ 1-450-038-11	S.R.T (KV-A2121D,A2521D)	
	⚠ 1-450-037-11	S.R.T (KV-A2921D)	
T602	⚠ 1-424-277-11	TRANSFORMER, TRIGGER PULSE	
T801	⚠ 1-437-090-21	HDT	
T802	⚠ 1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)	

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
PS601	⚠ 1-532-984-91	LINK, IC (ICP-N50) 2A	
PS602	⚠ 1-532-984-91	LINK, IC (ICP-N50) 2A	
PS603	⚠ 1-532-679-91	LINK, IC (ICP-N15) 0.6A	
PS604	⚠ 1-532-984-91	LINK, IC (ICP-N50) 2A	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q001	8-729-901-01	TRANSISTOR DTC144EK	
Q002	8-729-901-01	TRANSISTOR DTC144EK	
Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
Q005	8-729-901-01	TRANSISTOR DTC144EK	
Q006	8-729-901-01	TRANSISTOR DTC144EK	
Q007	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q009	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q010	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q251	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q261	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q271	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
Q505	8-729-140-96	TRANSISTOR 2SD774-34	
Q506	8-729-140-97	TRANSISTOR 2SB734-34	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
Q601	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
Q603	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
Q605	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q606	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q608	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q609	8-729-320-62	TRANSISTOR 2SD789-34	
Q801	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q804	8-729-304-50	TRANSISTOR 2SD1941-06	
Q805	8-729-119-80	TRANSISTOR 2SC2688-LK	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR1	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR3	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR4	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR7	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R001	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R002	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R003	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R005	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R006	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R007	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R008	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R009	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R010	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R012	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R013	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R014	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R015	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R016	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R017	1-216-087-11	METAL GLAZE	39K	5%	1/10W	

D

REF.NO.	PART NO.	DESCRIPTION				REMARK
R018	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R019	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R020	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R021	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R022	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R024	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R025	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R026	1-216-182-00	METAL GLAZE	220	5%	1/8W	
R027	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R028	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R029	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R030	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R031	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R032	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R034	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R035	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R036	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R037	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R038	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R039	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R040	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R042	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R043	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R044	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R045	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R046	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R047	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R048	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R049	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R050	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R051	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R052	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R053	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R054	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R055	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R056	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R057	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R058	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R059	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R060	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R061	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R062	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R063	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R064	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R065	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R066	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R067	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R068	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R069	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R070	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R071	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R072	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R073	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R075	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R076	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R077	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R078	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R079	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R080	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R081	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R083	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R084	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R085	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R086	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R087	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R088	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R093	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R094	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R095	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R096	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R098	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R251	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R252	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R253	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R254	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R255	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R256	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R257	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R258	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R259	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R261	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R262	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R263	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R264	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R265	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R266	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R267	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R268	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R269	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R270	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R271	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R272	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R273	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R274	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R500	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R501	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R502	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R503	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R504	1-249-420-11	CARBON	1.8K	5%	1/4W	
R505	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R506	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R509	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R510	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R514	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R515	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R517	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R518	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R519	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R520	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R521	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R522	1-215-469-00	METAL	100K	1%	1/4W	
R523	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R524	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R525	1-216-049-00	METAL GLAZE	1K	5%	1/10W (KV-A2121D,A2521D)	
R526	1-249-409-11	CARBON	220	5%	1/4W	F
R527	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R528	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R529	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R530	1-249-448-11	CARBON	1.2	5%	1/4W	F
R531	1-216-099-00	METAL GLAZE	120K	5%	1/10W (KV-A2521D,A2921D)	
R532	1-216-049-00	METAL GLAZE	1K	5%	1/10W (KV-A2521D,A2921D)	
R533	1-216-031-00	METAL GLAZE	180	5%	1/10W (KV-A2121D)	

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REF.NO.	PART NO.	DESCRIPTION					REMARK
	1-216-295-00	METAL GLAZE	0	5%	1/10W		(KV-A2521D,A2921D)
R534	1-216-119-00	METAL GLAZE	820K	5%	1/10W		
R535	1-249-753-15	CARBON	4.7M	5%	1/4W		(KV-A2121D)
	1-249-749-00	CARBON	2.2M	5%	1/4W		(KV-A2521D,A2921D)
R536	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W		
R537	1-216-083-00	METAL GLAZE	27K	5%	1/10W		
R538	1-216-101-00	METAL GLAZE	150K	5%	1/10W		
R539	1-216-101-00	METAL GLAZE	150K	5%	1/10W		
R540	1-216-013-00	METAL GLAZE	33	5%	1/10W		
R541	1-216-091-00	METAL GLAZE	56K	5%	1/10W		
R542	1-216-308-00	METAL GLAZE	4.7	5%	1/10W		
R543	1-249-451-11	CARBON	2.2	5%	1/4W		
R544	1-247-745-11	CARBON	330	5%	1/2W		
R545	**1-216-689-11**	METAL GLAZE	39K	5%	1/10W		(KV-A2121D)
	1-216-081-00	METAL GLAZE	22K	5%	1/10W		(KV-A2521D,A2921D)
R546	1-216-083-00	METAL GLAZE	27K	5%	1/10W		
R547	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W		(KV-A2121D)
	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W		(KV-A2521D,A2921D)
R548	1-216-350-11	METAL OXIDE	1.2	5%	1W	F	(KV-A2121D)
	1-216-349-00	METAL OXIDE	1	5%	1W	F	(KV-A2521D,A2921D)
R549	1-215-890-11	METAL OXIDE	470	5%	2W	F	(KV-A2121D)
	1-216-454-11	METAL OXIDE	390	5%	2W	F	(KV-A2521D,A2921D)
R550	1-216-095-00	METAL GLAZE	82K	5%	1/10W		
R551	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W		
R552	1-216-433-00	METAL OXIDE	1.2K	5%	1W	F	(KV-A2121D)
R553	1-215-869-11	METAL OXIDE	1K	5%	1W		
R554	1-216-037-00	METAL GLAZE	330	5%	1/10W		
R555	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W		
R556	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R557	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		
R558	1-216-113-00	METAL GLAZE	470K	5%	1/10W		
R559	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W		
R560	1-216-037-00	METAL GLAZE	330	5%	1/10W		
R561	1-216-107-00	METAL GLAZE	270K	5%	1/10W		(KV-A2921D)
R570	1-216-045-00	METAL GLAZE	680	5%	1/10W		(KV-A2921D)
R591	1-216-047-00	METAL GLAZE	820	5%	1/10W		
R592	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R593	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W		
R594	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W		
R597	1-216-041-00	METAL GLAZE	470	5%	1/10W		
R598	1-215-900-11	METAL OXIDE	22K	5%	2W	F	
R600	1-249-381-11	CARBON	1	5%	1/4W		(KV-A2521D,A2921D)
R601	1-216-353-00	METAL OXIDE	2.2	5%	1W	F	
R603	1-215-906-11	METAL OXIDE	15	5%	3W	F	(KV-A2121D)
	1-216-469-11	METAL OXIDE	12	5%	3W	F	(KV-A2521D,A2921D)
R604	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R605	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R606	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W		
R607	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		(KV-A2121D,A2521D)
	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W		(KV-A2921D)
R608	1-216-488-11	METAL OXIDE	18K	5%	3W	F	
R609	1-216-007-00	METAL GLAZE	18	5%	1/10W		
R610	1-244-941-00	CARBON	680K	5%	1/2W		
R611	1-216-015-00	METAL GLAZE	39	5%	1/10W		
R612	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R613	1-216-097-00	METAL GLAZE	100K	5%	1/10W		
R614	1-205-758-11	WIREWOUND	100	10%	10W	F	
R616	1-216-099-00	METAL GLAZE	120K	5%	1/10W		
R617	1-216-037-00	METAL GLAZE	330	5%	1/10W		
R618	1-216-431-11	METAL OXIDE	560	5%	1W	F	
R619	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R620	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R621	1-216-077-00	METAL GLAZE	15K	5%	1/10W		
R622	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R623	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R624	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W		
R625	1-215-865-11	METAL OXIDE	220	5%	1W	F	
R626	1-216-037-00	METAL GLAZE	330	5%	1/10W		
R628	1-216-001-00	METAL GLAZE	10	5%	1/10W		
R629	1-216-037-00	METAL GLAZE	330	5%	1/10W		
R631	1-216-465-11	METAL OXIDE	27K	5%	2W		(KV-A2121D, A2521D)
R633	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R634	1-216-430-11	METAL OXIDE	390	5%	1W	F	
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R636	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R643	1-217-190-21	WIREWOUND	0.15	5%	2W	F	(KV-A2121D)
	1-217-189-21	WIREWOUND	0.12	5%	2W	F	(KV-A2521D, A2921D)
R651	1-216-025-00	METAL GLAZE	100	5%	1/10W		
R653	1-205-758-11	WIREWOUND	100	10%	10W	F	
R802	1-249-443-11	CARBON	0.47	5%	1/4W	F	
R805	1-249-448-11	CARBON	1.2	5%	1/4W	F	
R806	1-216-093-00	METAL GLAZE	68K	5%	1/10W		
R807	1-217-778-11	FUSIBLE	1K	5%	1W	F	
R809	1-202-821-11	SOLID	1.8K	10%	1/2W		
R810	1-202-818-00	SOLID	1K	10%	1/2W		
R811	1-215-863-11	METAL OXIDE	100	5%	1W	F	(KV-A2121D)
	1-215-882-00	METAL OXIDE	22	5%	2W	F	(KV-A2521D, A2921D)
R812	1-247-285-00	CARBON	75K	5%	1/2W		(KV-A2121D)
	1-249-494-11	CARBON	68K	5%	1/2W		(KV-A2521D)
	1-247-281-00	CARBON	51K	5%	1/2W		(KV-A2921D)
R815	1-215-884-11	METAL OXIDE	47	5%	2W	F	
R816	1-215-868-00	METAL OXIDE	680	5%	1W	F	
R817	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R820	1-249-403-11	CARBON	68	5%	1/4W		
R821	1-247-725-11	CARBON	10K	5%	1/4W	F	
R822	⚠.1-217-778-61	FUSIBLE	1K	5%	1W	F	
R825	1-216-349-00	METAL OXIDE	1	5%	1W	F	(KV-A2121D)
	1-216-345-11	METAL OXIDE	0.47	5%	1W	F	(KV-A2521D, ▲A2921D)

D **VM** **V**

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R826	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R827	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R828	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R829	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R831	1-249-451-11	CARBON	2.2	5%	1/4W	
R1601 ⚠	1-246-513-75	CARBON	47K	5%	1/4W	
R1602 ⚠	1-244-945-91	CARBON	1M	5%	1/2W	
R1603 ⚠	1-217-328-11	WIREWOUND	2.7	10%	7W	F
R1604 ⚠	1-246-513-75	CARBON	47K	5%	1/4W	
R1605 ⚠	1-218-265-91	METAL GLAZE	8.2M	5%	1W	
R5501	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5503	1-216-308-00	METAL GLAZE	4.7	5%	1/10W	
						(KV-A2121D,A2521D)
	1-216-001-00	METAL GLAZE	10	5%	1/10W	
						(KV-A2921D)
R5504	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R5505	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R5506	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
						(KV-A2921D)

<VARIABLE RESISTOR>

RV501	1-238-013-11	RES, ADJ, CARBON 2.2K
RV502	1-238-016-11	RES, ADJ, CARBON 10K
RV601	1-238-011-11	RES, ADJ, CARBON 470

<SPARK GAP>

SG801	1-519-422-11	GAP, SPARK

<THERMISTOR>

THP601 ⚠	1-808-059-32	THERMISTOR, POSITIVE

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*1-634-193-11 VM BOARD (KV-A2921D)
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<CAPACITOR>

C751	1-101-361-00	CERAMIC	150PF	5%	50V
C752	1-108-629-11	MYLAR	0.018MF	10%	100V
C753	1-137-047-11	FILM	0.01MF	10%	400V
C754	1-102-980-00	CERAMIC	270PF	5%	50V
C757	1-108-692-11	MYLAR	0.01MF	10%	200V
C759	1-124-907-11	ELECT	10MF	20%	50V
C760	1-124-917-11	ELECT	33MF	20%	50V
C761	1-101-006-00	CERAMIC	0.047MF		50V
C762	1-137-047-11	FILM	0.01MF	10%	400V

<COIL>

L751	1-408-413-00	INDUCTOR	22UH
L770	1-410-665-31	INDUCTOR	15UH

<TRANSISTOR>

Q751	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q753	8-729-140-97	TRANSISTOR 2SB734-34
Q754	8-729-140-96	TRANSISTOR 2SD774-34

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R751	1-249-418-11	CARBON	1.2K	5%	1/4W	
R752	1-249-426-11	CARBON	5.6K	5%	1/4W	
R753	1-249-414-11	CARBON	560	5%	1/4W	
R754	1-249-434-11	CARBON	27K	5%	1/4W	
R755	1-249-405-11	CARBON	100	5%	1/4W	
R756	1-249-419-11	CARBON	1.5K	5%	1/4W	
R757	1-249-405-11	CARBON	100	5%	1/4W	
R758	1-249-409-11	CARBON	220	5%	1/4W	
R760	1-249-411-11	CARBON	330	5%	1/4W	
R761	1-249-429-11	CARBON	10K	5%	1/4W	
R762	1-247-895-00	CARBON	470K	5%	1/4W	
R763	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-455-11	CARBON	4.7	5%	1/4W	F
R765	1-249-455-11	CARBON	4.7	5%	1/4W	F
R766	1-247-753-11	CARBON	1.2K	5%	1/2W	
R767	1-247-751-11	CARBON	820	5%	1/2W	
R768	1-215-887-00	METAL OXIDE	150	5%	2W	F
R769 ⚠	1-212-889-51	FUSIBLE	220	5%	1/4W	F

<CONNECTOR>

VM73	*1-568-878-51	PIN, CONNECTOR 3P
VM88	*1-568-878-51	PIN, CONNECTOR 3P

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*A-1645-013-A V BOARD, COMPLETE
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<CAPACITOR>

C1	1-126-101-11	ELECT	100MF	20%	16V
C2	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C3	1-124-120-11	ELECT	220MF	20%	16V
C4	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C5	1-124-120-11	ELECT	220MF	20%	16V
C6	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C10	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C11	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C12	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C13	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C14	1-124-927-11	ELECT	4.7MF	20%	50V
C15	1-124-927-11	ELECT	4.7MF	20%	50V
C16	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C17	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C18	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C26	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C27	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C29	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C32	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C33	1-163-038-00	CERAMIC CHIP	0.1MF		25V

<CONNECTOR>

CNV1	*1-565-393-11	CONNECTOR, BOARD TO BOARD
CNV2	*1-565-393-11	CONNECTOR, BOARD TO BOARD

<DIODE>

D1	8-719-105-91	DIODE RD5.6M-B2
D3	8-719-914-44	DIODE DAP202K
D4	8-719-400-18	DIODE MA152WK
D5	8-719-914-44	DIODE DAP202K

The components identified by shading and mark ⚠ are critical for safety.
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V **H1**

REF.NO.	PART NO.	DESCRIPTION	REMARK
D6	8-719-400-18	DIODE MA152WK	
D7	8-719-105-52	DIODE RD3.6M-B2	
D9	8-719-106-17	DIODE RD6.8M-B2	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1	8-759-039-18	IC SDA20162-B002	
IC2	8-759-045-54	IC SAA5246P/E/M4A	
IC3	8-759-510-49	IC FCB61C65L-70P	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1	1-408-403-00	INDUCTOR 3.3UH	
L2	1-408-407-00	INDUCTOR 6.8UH	
L3	1-408-407-00	INDUCTOR 6.8UH	
L4	1-408-407-00	INDUCTOR 6.8UH	

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
PS1	⚠1-532-679-91	LINK, IC (ICP-N15) 0.6A	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1	8-729-900-53	TRANSISTOR DTC114EK	
Q2	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q3	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q5	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q6	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR01	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR02	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR03	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR08	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR09	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR11	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR17	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR18	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR19	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR20	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR21	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR23	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR24	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR25	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR26	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR201	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR204	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR207	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR208	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR211	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR213	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR219	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR220	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR223	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R1	1-218-326-11	METAL GLAZE 470 5% 1/2W	
R3	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R4	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R5	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R6	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R7	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R8	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R9	1-216-308-00	METAL GLAZE 4.7 5% 1/10W	
R02	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W	
R10	1-218-325-11	METAL GLAZE 120 5% 1/4W	
R11	1-218-325-11	METAL GLAZE 120 5% 1/4W	
R12	1-218-325-11	METAL GLAZE 120 5% 1/4W	
R13	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R14	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R15	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R16	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R17	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R18	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R19	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R20	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R21	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R22	1-216-168-00	METAL GLAZE 56 5% 1/8W	
R23	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W	
R24	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R25	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R26	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R27	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W	
R28	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R34	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R35	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R40	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R41	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R42	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R44	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R46	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R47	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R49	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R50	1-216-296-00	METAL GLAZE 0 5% 1/8W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1	1-238-012-11	RES, ADJ, CARBON 1K	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X1	1-579-266-31	CRYSTAL VIBRATOR	
X2	1-577-364-11	VIBRATOR, CERAMIC	

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*1-638-391-11 H1 BOARD
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C1651	1-102-106-00	CERAMIC 100PF 10% 50V	
C1652	1-102-106-00	CERAMIC 100PF 10% 50V	
C1653	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C1655	1-102-074-00	CERAMIC 0.001MF 10% 50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
H1-1	*1-568-881-51	PIN, CONNECTOR 6P	
H1-02	1-568-678-11	TERMINAL BLOCK, S 3P	
H1-4	*1-568-879-51	PIN, CONNECTOR 4P	
H1-05	1-562-837-11	JACK	
H1-23	*1-568-879-51	PIN, CONNECTOR 4P	
H1-43	*1-564-512-11	PLUG, CONNECTOR 9P	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
R1651	1-249-413-11	CARBON	470	5%	1/4W
R1652	1-249-413-11	CARBON	470	5%	1/4W

<SWITCH>

S1651	1-571-532-21	SWITCH, TACTIL
S1652	1-571-532-21	SWITCH, TACTIL
S1653	1-571-532-21	SWITCH, TACTIL

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*1-638-392-11 H2 BOARD
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*4-374-987-01 GUIDE, LIGHT
*4-381-686-01 BRACKET (B), LIGHT GUIDE

<DIODE>

D1651	8-719-948-31	DIODE LD-201VR
	*4-201-076-01	HOLDER, LED; D1651
D1652	8-719-948-31	DIODE LD-201VR
	*4-201-076-01	HOLDER, LED; D1652
D1654	8-719-948-31	DIODE LD-201VR
	*4-201-076-01	HOLDER, LED; D1654

<CONNECTOR>

H2-2	*1-568-882-51	PIN, CONNECTOR 7P

<IC>

IC1651	8-741-101-75	IC SBX1610-11

<RESISTOR>

R1662	1-249-413-11	CARBON	470	5%	1/4W

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*A-1651-018-A J1 BOARD, COMPLETE (KV-A2121D,A2521D)
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*A-1651-020-A J1 BOARD, COMPLETE (KV-A2921D)
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C203	1-124-925-11	ELECT	2.2MF	20%	50V
C205	1-124-927-11	ELECT	4.7MF	20%	50V
C206	1-124-925-11	ELECT	2.2MF	20%	50V
C207	1-124-927-11	ELECT	4.7MF	20%	50V
C213	1-126-233-11	ELECT	22MF	20%	50V
C214	1-137-045-11	FILM	0.0068MF	10%	400V
C217	1-137-045-11	FILM	0.0068MF	10%	400V
C218	1-137-102-11	FILM	0.022MF	10%	250V
C219	1-137-102-11	FILM	0.022MF	10%	250V
C220	1-108-686-11	MYLAR	0.0033MF	10%	100V
C221	1-108-686-11	MYLAR	0.0033MF	10%	100V
C222	1-137-095-11	FILM	0.056MF	10%	100V
C223	1-137-095-11	FILM	0.056MF	10%	100V
C224	1-137-047-11	FILM	0.01MF	10%	400V
C225	1-136-173-00	FILM	0.47MF	5%	50V
C226	1-136-173-00	FILM	0.47MF	5%	50V
C227	1-137-102-11	FILM	0.022MF	10%	250V
C228	1-137-104-11	FILM	0.033MF	10%	250V
C229	1-137-049-11	FILM	0.015MF	10%	400V
C230	1-137-049-11	FILM	0.015MF	10%	400V
C231	1-124-902-00	ELECT	0.47MF	20%	50V
C232	1-124-907-11	ELECT	10MF	20%	50V
C233	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C234	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C235	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C236	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C237	1-124-902-00	ELECT	0.47MF	20%	50V
C238	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C239	1-126-103-11	ELECT	470MF	20%	16V
C240	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C241	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C242	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C243	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C244	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C245	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C1401	1-124-907-11	ELECT	10MF	20%	50V
C1402	1-126-103-11	ELECT	470MF	20%	16V
C1403	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1404	1-137-098-11	FILM	0.1MF	10%	100V
C1405	1-163-029-11	CERAMIC CHIP	0.0047MF		50V
C1406	1-137-098-11	FILM	0.1MF	10%	100V
C1407	1-124-910-11	ELECT	47MF	20%	50V
C1408	1-124-122-11	ELECT	100MF	20%	50V
C1409	1-126-233-11	ELECT	22MF	20%	50V
C1410	1-124-907-11	ELECT	10MF	20%	50V
C1411	1-124-907-11	ELECT	10MF	20%	50V
C1412	1-124-910-11	ELECT	47MF	20%	50V
C1413	1-124-910-11	ELECT	47MF	20%	50V
C1414	1-124-907-11	ELECT	10MF	20%	50V
C1415	1-137-098-11	FILM	0.1MF	10%	100V
C1416	1-137-098-11	FILM	0.1MF	10%	100V
C1417	1-124-120-11	ELECT	220MF	20%	16V
C1418	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1419	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1425	1-124-902-00	ELECT	0.47MF	20%	50V
C1426	1-124-902-00	ELECT	0.47MF	20%	50V
C1427	1-163-029-11	CERAMIC CHIP	0.0047MF		50V
C1428	1-163-029-11	CERAMIC CHIP	0.0047MF		50V
C1429	1-163-029-11	CERAMIC CHIP	0.0047MF		50V
C1430	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1431	1-126-529-11	ELECT	0.47MF	20%	50V
C1432	1-124-902-00	ELECT	0.47MF	20%	50V
C1433	1-124-122-11	ELECT	100MF	20%	50V
C1436	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1437	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1438	1-137-047-11	FILM	0.01MF	10%	400V
C1439	1-137-047-11	FILM	0.01MF	10%	400V
C1440	1-124-907-11	ELECT	10MF	20%	50V
C1441	1-124-907-11	ELECT	10MF	20%	50V
C1442	1-137-098-11	FILM	0.1MF	10%	100V
C1443	1-137-098-11	FILM	0.1MF	10%	100V
C1444	1-124-910-11	ELECT	47MF	20%	50V
C1445	1-102-824-00	CERAMIC	470PF	5%	50V
C1446	1-102-824-00	CERAMIC	470PF	5%	50V
C1501	1-124-927-11	ELECT	4.7MF	20%	50V
C1502	1-124-903-11	ELECT	1MF	20%	50V
C1503	1-108-680-11	MYLAR	0.001MF	10%	100V
C1504	1-124-910-11	ELECT	47MF	20%	50V
C1505	1-137-094-11	FILM	0.047MF	10%	100V
C1507	1-108-686-11	MYLAR	0.0033MF	10%	100V

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1508	1-124-903-11	ELECT	1MF	20%	50V	
C1509	1-124-903-11	ELECT	1MF	20%	50V	
C1511	1-124-927-11	ELECT	4.7MF	20%	50V	
C1512	1-137-045-11	FILM	0.0068MF	10%	400V	(KV-A2121D,A2521D)
C1513	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C1514	1-137-102-11	FILM	0.022MF	10%	250V	(KV-A2121D,A2521D)
C1515	1-102-117-00	CERAMIC	820PF	10%	50V	(KV-A2121D,A2521D)
		<CONNECTOR>				
CN1401	1-565-838-11	JACK BLOCK, PIN 2P				
J1-41	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P				
J1-43	*1-564-524-11	PLUG, CONNECTOR 9P				
J1-44	*1-564-527-11	PLUG, CONNECTOR 12P				
J1-51	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P				
		<DIODE>				
D201	8-719-110-14	DIODE RD9.1ES-B3				
D202	8-719-110-14	DIODE RD9.1ES-B3				
D205	8-719-110-03	DIODE RD7.5ES-B2				
D206	8-719-110-03	DIODE RD7.5ES-B2				
D1401	8-719-110-03	DIODE RD7.5ES-B2				
D1403	8-719-110-03	DIODE RD7.5ES-B2				
D1404	8-719-110-03	DIODE RD7.5ES-B2				
D1405	8-719-110-03	DIODE RD7.5ES-B2				
D1406	8-719-110-03	DIODE RD7.5ES-B2				
D1407	8-719-921-77	DIODE MTZN-10C				
D1408	8-719-110-14	DIODE RD9.1ES-B3				
D1409	8-719-110-14	DIODE RD9.1ES-B3				
D1410	8-719-110-14	DIODE RD9.1ES-B3				
D1415	8-719-110-03	DIODE RD7.5ES-B2				
D1418	8-719-110-03	DIODE RD7.5ES-B2				
D1419	8-719-110-03	DIODE RD7.5ES-B2				
D1420	8-719-110-03	DIODE RD7.5ES-B2				
D1421	8-719-110-03	DIODE RD7.5ES-B2				
D1422	8-719-110-03	DIODE RD7.5ES-B2				
D1423	8-719-110-03	DIODE RD7.5ES-B2				
D1424	8-719-110-03	DIODE RD7.5ES-B2				
D1425	8-719-110-03	DIODE RD7.5ES-B2				
D1426	8-719-110-03	DIODE RD7.5ES-B2				
D1501	8-719-300-33	DIODE RU-3AM				
D1502	8-719-911-19	DIODE 1SS119				
D1503	8-719-911-19	DIODE 1SS119				
D1504	8-719-911-19	DIODE 1SS119				
D1505	8-719-911-19	DIODE 1SS119				
D1506	8-719-982-33	DIODE MTZJ-36D				
D1507	8-719-911-19	DIODE 1SS119				
D1510	8-719-911-19	DIODE 1SS119				
		<IC>				
IC201	8-759-013-17	IC TDA6200				
IC1401	8-752-053-17	IC CXA1114P				
IC1402	8-759-946-32	IC TEA2014A				
IC1403	8-759-140-53	IC UPD4053BC				
IC1501	8-759-942-16	IC TEA2031A				
		<JACK>				
J1402	1-561-534-41	SOCKET 21P				
J1403	1-561-534-41	SOCKET 21P				

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<TRANSISTOR>				
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q1401	8-729-216-22	TRANSISTOR 2SA1162-G				
Q1402	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q1403	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q1404	8-729-216-22	TRANSISTOR 2SA1162-G				
		<RESISTOR>				
R201	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R202	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R203	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R204	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R205	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R206	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R207	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R208	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R209	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R210	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R211	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R212	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R213	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R214	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R215	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R216	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R217	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R218	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R219	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R220	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R221	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R222	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R223	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R224	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R225	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R226	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R227	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R228	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R229	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R230	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R231	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R232	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R233	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R234	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R235	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R236	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R240	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R241	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R242	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R243	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R244	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R245	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R246	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R247	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R248	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R249	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R250	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1400	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1401	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1402	1-216-170-00	METAL GLAZE	68	5%	1/8W	
R1403	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

J1 IFG

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1404	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R1405	1-249-434-11	CARBON	27K	5%	1/4W	
R1407	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1408	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1409	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1410	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1411	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1412	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1413	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1414	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1415	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1416	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1417	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1418	1-247-738-11	CARBON	82	5%	1/2W	F
R1419	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1420	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1421	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1422	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1423	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1424	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1425	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1426	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1427	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1428	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1429	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1430	1-216-170-00	METAL GLAZE	68	5%	1/8W	
R1431	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1432	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1433	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1434	1-249-393-11	CARBON	10	5%	1/4W	F
R1437	1-249-434-11	CARBON	27K	5%	1/4W	
R1440	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1441	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1442	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1443	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1444	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1445	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R1446	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1447	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1448	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1449	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1452	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1453	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1454	1-216-180-00	METAL GLAZE	180	5%	1/8W	
R1455	1-216-180-00	METAL GLAZE	180	5%	1/8W	
R1457	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1459	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1460	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1461	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R1462	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1463	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1464	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1465	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1466	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1467	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1468	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1469	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1470	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1471	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1472	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1473	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1474	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1476	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1477	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1478	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1480	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R1482	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R1483	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R1484	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1485	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1486	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1487	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1488	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1489	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1501	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1502	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1503	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1504	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1505	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1506	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1509	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1510	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1511	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1512	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1513	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1514	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1515	1-216-117-00	METAL GLAZE	680K	5%	1/10W	(KV-A2121D,A2521D)
R1516	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1517	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1519	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R1520	1-216-113-00	METAL GLAZE	470K	5%	1/10W	(KV-A2121D,A2521D)
	1-216-111-00	METAL GLAZE	390K	5%	1/10W	(KV-A2921D)
R1521	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W	
R1550	1-216-349-00	METAL OXIDE	1	5%	1W	F (KV-A2921D)
R1556	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	

<VARIABLE RESISTOR>

RV1501	1-238-023-11	RES, ADJ, CARBON	470K
RV1502	1-238-016-11	RES, ADJ, CARBON	10K
RV1503	1-238-017-11	RES, ADJ, CARBON	22K
RV1504	1-238-012-11	RES, ADJ, CARBON	1K
RV1505	1-238-023-11	RES, ADJ, CARBON	470K
RV1506	1-238-017-11	RES, ADJ, CARBON	22K
RV1507	1-238-009-11	RES, ADJ, CARBON	220
RV1508	1-238-016-11	RES, ADJ, CARBON	10K
RV1509	1-238-023-11	RES, ADJ, CARBON	470K

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*A-1654-004-A IFG BOARD, COMPLETE
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<CAPACITOR>

C1	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C4	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C5	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C6	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C7	1-124-903-11	ELECT	1MF	20%	50V
C8	1-124-907-11	ELECT	10MF	20%	50V
C9	1-130-471-00	MYLAR	0.001MF	5%	50V
C10	1-163-121-00	CERAMIC CHIP	150PF	5%	50V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C11	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C12	1-136-298-00	FILM	0.0033MF	2%	100V
C13	1-124-477-11	ELECT	47MF	20%	16V
C14	1-124-477-11	ELECT	47MF	20%	16V
C15	1-124-477-11	ELECT	47MF	20%	16V
C16	1-124-477-11	ELECT	47MF	20%	16V
C17	1-124-907-11	ELECT	10MF	20%	50V
C18	1-137-047-11	FILM	0.01MF	10%	400V
C19	1-137-047-11	FILM	0.01MF	10%	400V
C20	1-126-233-11	ELECT	22MF	20%	50V
C21	1-126-233-11	ELECT	22MF	20%	50V
C22	1-137-098-11	FILM	0.1MF	10%	100V
C23	1-137-031-11	FILM	0.22MF	10%	100V
C24	1-124-034-51	ELECT	33MF	20%	16V
C25	1-137-102-11	FILM	0.022MF	10%	250V
C26	1-137-094-11	FILM	0.047MF	10%	100V
C27	1-124-903-11	ELECT	1MF	20%	50V
C28	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C29	1-124-903-11	ELECT	1MF	20%	50V
C30	1-124-903-11	ELECT	1MF	20%	50V
C31	1-137-047-11	FILM	0.01MF	10%	400V
C32	1-130-479-00	MYLAR	0.0047MF	5%	50V
C33	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C34	1-137-031-11	FILM	0.22MF	10%	100V
C35	1-124-907-11	ELECT	10MF	20%	50V
C36	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C37	1-124-477-11	ELECT	47MF	20%	16V
C38	1-124-477-11	ELECT	47MF	20%	16V
C39	1-163-133-00	CERAMIC CHIP	470PF	5%	50V

<FILTER>

CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC
CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC
SFT1	1-527-840-00	FILTER, CERAMIC
SFT2	1-527-839-00	FILTER, CERAMIC

<DIODE>

D3	8-719-400-18	DIODE MA152WK

<IC>

IC1	8-759-003-90	IC TBA129
IC2	8-759-003-90	IC TBA129
IC3	8-759-030-48	IC TDA6600-2
IC4	8-759-513-48	IC TDA2595/V9

<CONNECTOR>

IFG13	*1-565-488-11	CONNECTOR, BOARD TO BOARD 12P

<COIL>

L1	1-408-410-00	INDUCTOR	12UH
L2	1-408-410-00	INDUCTOR	12UH
L3	1-410-064-11	INDUCTOR	2.7MMH
L4	1-408-421-00	INDUCTOR	100UH
L5	1-408-421-00	INDUCTOR	100UH

<TRANSISTOR>

Q2	8-729-901-00	TRANSISTOR DTC124EK
Q3	8-729-216-22	TRANSISTOR 2SA1162-G
Q4	8-729-901-00	TRANSISTOR DTC124EK

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
JR8	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR10	1-216-296-00	METAL GLAZE	0	5%	1/8W
R1	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2	1-216-043-00	METAL GLAZE	560	5%	1/10W
R3	1-216-043-00	METAL GLAZE	560	5%	1/10W
R5	1-216-045-00	METAL GLAZE	680	5%	1/10W
R6	1-216-043-00	METAL GLAZE	560	5%	1/10W
R7	1-216-043-00	METAL GLAZE	560	5%	1/10W
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R11	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R13	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R15	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R16	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R17	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R18	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R19	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R20	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R22	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R24	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R25	1-216-077-00	METAL GLAZE	15K	5%	1/10W

<VARIABLE RESISTOR>

RV1	1-238-016-11	RES, ADJ, CARBON 10K
RV2	1-238-019-11	RES, ADJ, CARBON 47K

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MISCELLANEOUS

	⚠.1-426-383-11	COIL, DEMAGNETIZATION (KV-A2121D)
	⚠.1-460-091-11	COIL, DEGAUSS (KV-A2521D)
	⚠.1-426-535-11	COIL, DEGAUSSING (KV-A2921D)
	⚠.1-451-295-11	DEFLECTION YOKE (Y21PFA2) (KV-A2121D)
	⚠.1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-A2521D)
	⚠.1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-A2921D)
	1-452-032-00	MAGNET, DISK; 10MM ϕ
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ
	1-452-277-00	MAGNET, BMC (KV-A2121D)
	⚠.1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308) (KV-A2921D)
	1-544-475-11	SPEAKER
	⚠.1-590-501-11	CORD, POWER (WITH NOISE FILTER)
V901	⚠.8-738-758-05	PICTURE TUBE (A51JXH61X) (KV-A2121D)
	⚠.8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-A2521D)
	⚠.8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-A2921D)

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ACCESSORIES AND PACKING MATERIALS

3-754-894-11	MANUAL, INSTRUCTION (GERMAN/ENGLISH/FRENCH/ DUTCH/ ITALIAN/PORTUGUESE)
*4-031-068-01	CUSHION (UPPER) (ASSY) (KV-A2121D
*4-031-069-01	CUSHION (LOWER) (ASSY) (KV-A2121D
*4-031-070-01	INDIVIDUAL CARTON (KV-A2121D)
*4-030-989-01	CUSHION (UPPER) (ASSY) (KV-A2521D
*4-030-990-01	CUSHION (LOWER) (ASSY) (KV-A2521D
*4-201-015-03	INDIVIDUAL CARTON (KV-A2521D)
*4-380-340-01	BAG, PROTECTION (KV-A2121D,A2521D
*4-031-996-01	CUSHION (UPPER) (ASSY) (KV-A2921D